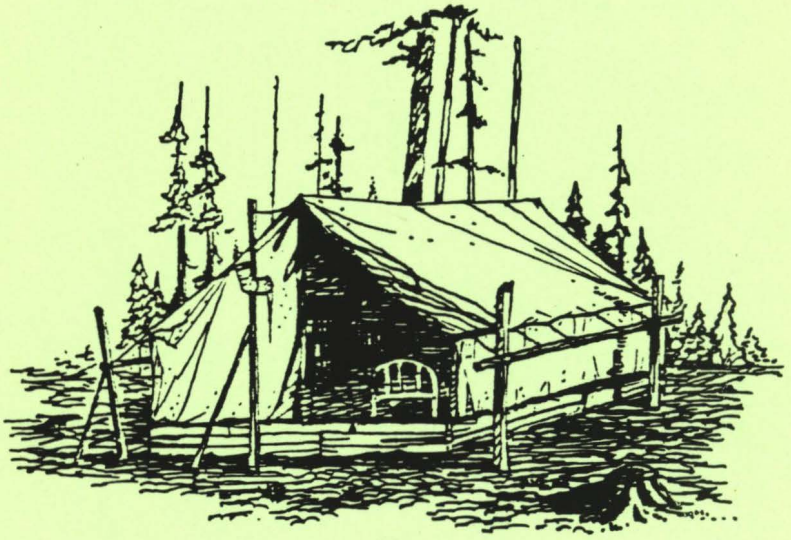
UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

HISTORICAL ARCHAEOLOGY AT THE TATE CREEK LOGGING CAMP, CA-SIS-1535-H, OF THE MCCLOUD RIVER LUMBER COMPANY SISKIYOU COUNTY, CALIFORNIA



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October, 1990

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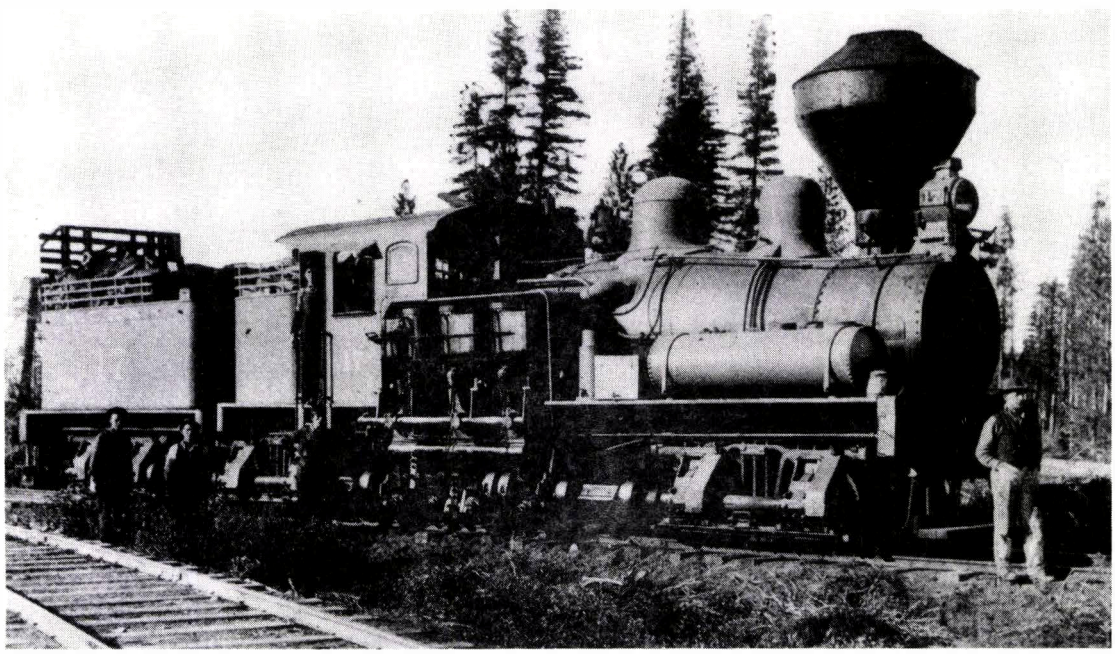

Fig. No. 1. McCloud River Railroad Engine No. 17. One of two Shay locomotives (No. 16 and 17) utilized by the McCloud River Lumber Company between 1911 and 1924. The gear-driven Shay locomotives were specifically adapted for railroad logging operations in rugged terrain (Heritage Junction Museum).

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ABSTRACT

Historical archaeology was conducted at the Tate Creek Logging Camp, F.S. 05-14-61-315 (CA-SIS-1535-H), during the spring and summer of 1989. The site, located about 11 air miles east-southeast of McCloud, California, is one of 32 historic cultural resources associated with railroad logging operations of the McCloud River Lumber Company that together have been determined to be eligible for the National Register of Historic Places as an historic district. The site was formerly located in an isolated 40 acre parcel of land administered by the Forest Service. This parcel was included in a series of land exchanges and was transferred to private ownership last year. Since exchange out of this parcel constituted an adverse effect to the site's National Register values, data recovery, through archaeological investigation, was conducted.

The site was found to be almost completely undisturbed from the time of abandonment. All features noted were carefully mapped in place to facilitate a reconstruction of the general camp layout. Numerous surface clearings were accomplished to expose various features found "in-situ." Standard excavation units were found to be an inefficient means of examining a historic site of such transience. A careful and detailed inventory of refuse deposits located at the site was conducted. The use of dendrochronology at the Tate Creek site marks the first time that this methodology has been applied to a railroad logging camp in Northern California.

The project was successful in providing a view of at least a portion of the material aspects of life in a railroad logging camp of the period. The period of occupation was determined (1919-1922) and general camp layout was successfully reconstructed. Archaeological evidence was also uncovered that suggests the re-use of the camp (ca. 1924) by a smaller group of individuals after the main camp had been abandoned. It is believed that this second phase of occupation was associated with the removal of the rails and ties up to three years after logging operations had ceased. Through archaeological investigations and some limited historical research, it appears likely that the Tate Creek operation, and other logging operations occurring in the area south of the McCloud River during this period, were of secondary importance to the overall harvesting strategy of the McCloud River Lumber Company.

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ACKNOWLEDGEMENTS

The author would like to acknowledge the assistance and support of the following personnel: Winfield Henn, Forest Archaeologist, Shasta-Trinity National Forests; Julie Krieger, Zone Archaeologist, McCloud-Mt. Shasta Ranger Districts, Shasta-Trinity National Forests and; Gerald Hoertling, Archaeological Technician, McCloud Ranger District. The author would also like to express appreciation to James Rock, Forest Archaeologist, Klamath National Forest, for his assistance during artifact analysis. Personnel involved during fieldwork were as follows: David Board, Nancy Elliott, Winfield Henn, Gerald Hoertling, Ellen Jellison, Julie Krieger and Elaine Sundahl. The efforts of these individuals are deeply appreciated. In addition, deep appreciation is extended to Les White for his interest and efforts regarding dendrochronological analysis at the Tate Creek Site (Appendix No. 1), to Perry Haskin, California State University, Chico, for faunal identification and analysis, and to Bruce Petty for assistance in identifying steam donkey components. Editing and review was conducted by Linda Lux, James Rock, Trudy Vaughan and David Wrobleski. The input provided by these individuals was extremely helpful. Also, appreciation is extended to the Heritage Junction Museum, McCloud, CA., to Nancy Elliott for word processing, and to Dave Cassell for the cover art.

D.R.E.
Oct. 1990

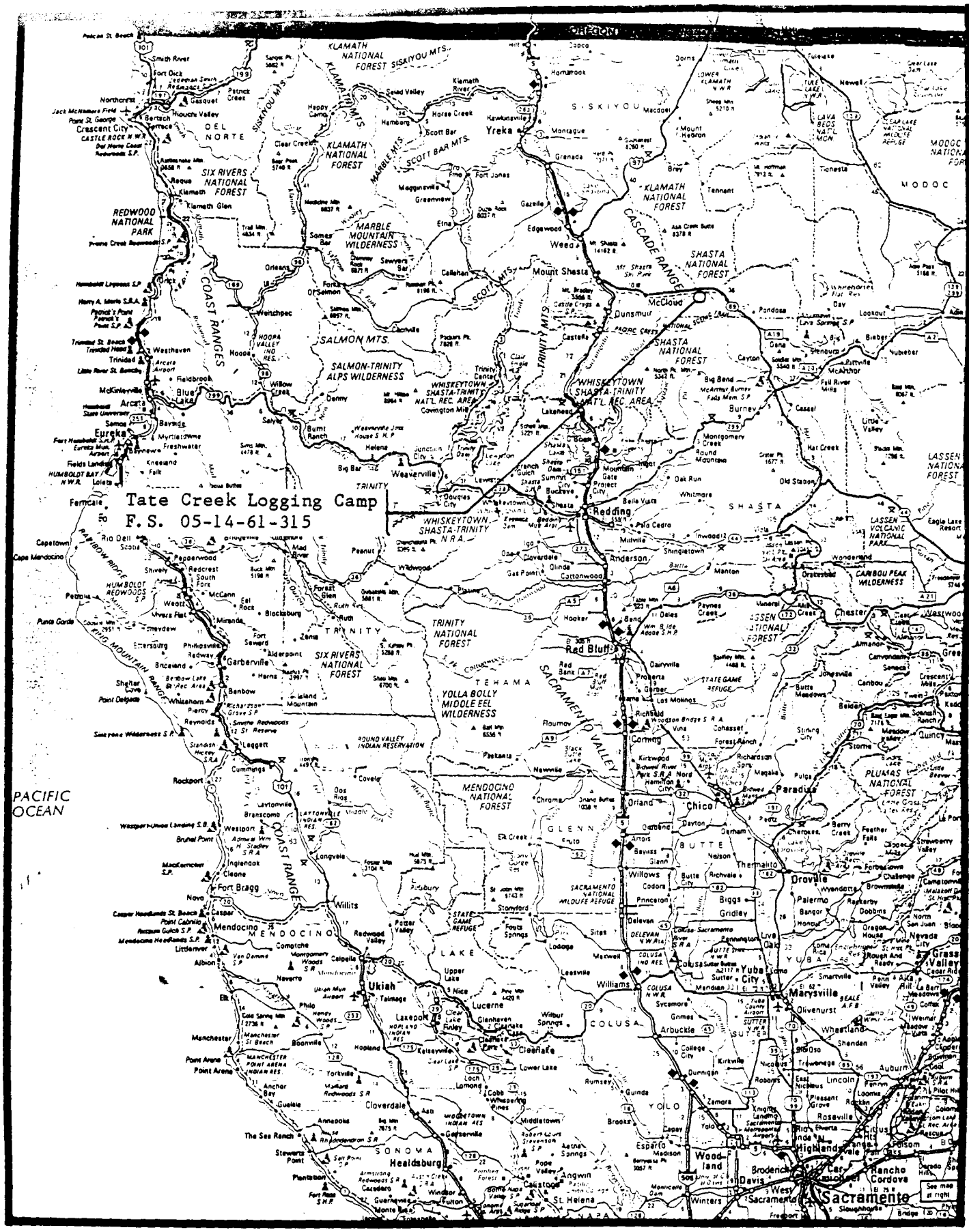
CHAPTER 1

INTRODUCTION

Archaeological investigations were conducted during June and July of 1989 at the Tate Creek Logging Camp, CA-SIS-1535-H, F.S. No. 05-14-61-315. The Tate Creek Logging Camp is one of 32 historic archaeological sites associated with the McCloud River Lumber Company and the McCloud River Railroad that have together been determined to be eligible for the National Register of Historic Places in the form of an historic district (Krieger 1988). The USDA Forest Service transferred ownership of various parcels of land to the Champion Corporation, the primary value of which was timber. In exchange, the Forest Service acquired lands along the McCloud River with recreational potential. The Tate Creek Logging Camp lies within an isolated 40 square acre parcel that was surrounded on all sides by Champion owned timber lands. Because of the inherent difficulty in the management of such a small isolated parcel, it was one of those Forest Service properties slated for exchange. Several options were considered regarding the means by which the preservation of the site's National Register values could be facilitated (Henn 1989). Ultimately, data recovery was selected as the best alternative.

The Tate Creek Logging Camp was formerly located on lands administered by the McCloud District of the Shasta-Trinity National Forest (Map No. 1). The site is located approximately 11 miles east-southeast of McCloud and 3.5 miles directly north of the Shasta-Siskiyou County border, Township 39 North, Range 1 West, Section 13, Mount Diablo Meridian (Big Bend NW 1984, USGS Quadrangle, 7.5' series).

The Tate Creek Logging Camp was located and recorded as an archaeological site in 1983 by Gerry Hoertling during the Algoma Compartment Archaeological Survey (ARR No. 05-14-641). The site was noted as a temporary logging camp exhibiting structural remains, refuse deposits and scattered materials covering an area of approximately 9 acres. The site record further noted that it was the only camp in the upper McCloud River region that appeared to retain good integrity. Surface artifacts indicated a probable occupation sometime during the second decade of the 20th century (1910 - 1920).



Map No. 1. Site location map for the Tate Creek Logging Camp, F.S. 05-14-61-315. (Map taken from Rand-McNally Road Atlas, 1989)

Archaeological field work was begun June 5, 1989 and was terminated on July 6, 1989. A total of 19 calendar-days were used for on-site field work. The size of the field crew fluctuated between two and seven individuals. Brush was found to be very thick and several days were required prior to field work to clear the site to reveal various features and to facilitate access within and around the site. In addition, a portion of the site mapping was conducted prior to the beginning of archaeological field work. Cataloging, artifact analysis, and archival analysis were accomplished during July and August of 1989.

This report will detail the results of the data recovery project at the Tate Creek Logging Camp. The report will intentionally (but not exclusively) focus on comparing data obtained from the Tate Creek site with the data generated by Trudy Vaughan (1985b) in her report on two McCloud River Lumber Company camps: the TramRail and Chippy Spur sites. The data will also be useful for future research in examining and comparing the Tate Creek Logging Camp to other similar camps encountered within the larger historic entity of railroad logging in the forests of the western United States. Curated artifacts will be stored at the Shasta College Archaeology Research Facility under an ongoing agreement between that institution and the Shasta-Trinity National Forests.

RESEARCH DESIGN

During the past decade, archaeologically orientated literature regarding historic logging operations has been growing steadily. Much of this literature has been thematic in nature: contextual histories that examine railroad logging systems and their social and economic impact in terms of the industrial and socio-economic growth of the western United States (e.g., Brown and Elling 1981, Shoup and Baker 1981, Sawyer 1988). Only a few projects undertaken within northern California have focused on individual railroad logging camp sites. Those that have (Baker and Shoup 1979, Vaughan 1985a and Vaughan 1985b) represent an extremely valuable addition to the overall railroad logging data base. Such projects have helped to relate existing resources in Northern California into the larger scope of historic logging operations in the western United States.

The research design used at the Tate Creek site is organized in conjunction with the four major research domains defined in the Regional Railroad Logging Research Design (Tamez et al. 1988:21-27). These four major research domains are environmental, technological, economic and socio-cultural. It has been recognized that these research domains are in no way independent of one another (Rock 1986:57). Rather, the separation of these domains serves as a tool for the analysis and comparison of the variable elements within these systems. The

research design for this project is primarily focused within the social/cultural realm (Henn 1989), however, inquiry will also revolve around questions regarding environment, economics and technology.

The primary area of inquiry addresses the manner in which the spatial arrangement of camp features may be a function of employee/management status or, possibly, segregation between various ethnic groups. It has been suggested that "ethnicity markers" may exist within logging camps which could identify the presence of a particular ethnic group (Rock:1986:65). A lack of such markers may be indicative of camp transience or company standardization and control. The diversity of ethnic groups that were involved in the logging industry within Northern California has been well documented (Hanft 1971:196, Rock 1986:64-65, Shoup 1981:38-39, Vaughan 1985a:95-96). Many company towns exhibited segregated housing based on company status and ethnic affiliation (Hanft 1971:59, Shoup 1981:38-39, Krieger 1988:15). For example, it is known that the company town of McCloud had a separate and distinct Italian section. A photograph of this section dated to 1909 shows a group of small, closely constructed, run-down houses (Hanft 1971:180). Italians made up an increasingly large percentage of the work force in the McCloud River Lumber Company during the early 1900s. There were more Italians working for the McCloud River Lumber Company than any other ethnic group during the 1910s and 1920s (Resident List 9/1/23, Heritage Junction Museum). Thus, one of the main questions to be addressed is if ethnicity markers can be recognized archaeologically and if so, what, if any, spatial separation between ethnic groups was present within the camp.

By observing artifact type frequencies within specific areas, it may be possible to identify the precise location of specialized structures as well as identify residential locations within the camp. It is important to note that this kind of approach would have diminished potential if the site did not retain good integrity. Because the site does retain good integrity, it may be possible to identify those portions of the camp that served as management quarters, specialized work areas, and residential areas by observing frequencies of functionally distinct artifact classes within a given area (Henn 1989, South 1977). A 1912-1914 inventory of the McCloud River Lumber Company assets (the only ledger of this type known to exist) includes materials located at a number of outlying camps. Within this inventory is a listing of various "take down cabins." For one camp (the specific camp was not indicated) there was a listing of 24 residential cabins, and one of each of the following: an oil house, a commissary, a laundry house, a bath house, a meat house, a tool room, a filing house, and a foreman's cabin (1914:138-139). Also listed within the inventory were numerous tent structures including a large (33'x 60') dining tent, a cook's tent, a tent barn, and numerous tent residences (1914:137, 141).

Additional questions addressed within the social/cultural research domain will include the degree of amenities provided to the work force. It has been well documented that the quality of food served in a logging camp could make a critical difference in the morale of camp workers (Conlin 1979). The presence of women in food service was, likewise, believed to be positive for morale (Rock 1986:65, Shoup 1981:106-109). A great deal of labor unrest was prevalent within the lumber industry during the 1910s and 1920s, due, in part, to low wages and deplorable conditions common in the temporary logging camps. Many lumber companies were improving camp conditions to weaken the positions of labor unions and organizations like the International Workers of the World (Shoup 1981:106-107). The McCloud River Lumber Company experienced a general strike within the company town in 1909 (Hanft 1971: 180-182). The Italian faction of the labor force demanded greater pay, and violence was only narrowly averted by calling in military troops. Thus, a major research question will address the degree of comfort provided by the McCloud River Lumber Company for camp laborers. This should be reflected archaeologically by specialty food items, the presence or absence of a bathhouse or laundry house, and the presence or absence of women in the camp.

Through archaeological field work, it is also hoped that specifics about the camp itself will be revealed. This would include information regarding the general layout of the camp, how many seasons the camp was maintained, exactly when the camp was established, when the camp was abandoned, what facilities were located within the camp, and what goods and supplies were imported regularly by the railroad? These questions straddle the line between the social/cultural realm of inquiry and those realms of economics and technology.

Questions within the technological and environmental realms of inquiry will also be addressed. A general evolution from the use of horses to steam donkey power to gasoline powered tractors in the woods is evident in the overall history of the lumber industry. Evidence of any of these technologies, or a combination of these, will help define what level of technology was being utilized within the Tate Creek drainage and other adjacent drainages. This will be defined by the presence or absence of artifacts relating to the above mentioned technologies, as well as noting evidence of environmental alterations (i.e. skid ruts, donkey landings, etc..).

Finally, economically orientated questions regarding the motivation behind locating a camp along the Tate Creek drainage will be addressed. During the second decade of this century, the McCloud River Lumber Company was expanding into the relatively level country north and east of the upper McCloud River drainage. It is known that the lumber company began logging operations in the vicinity of the Upper McCloud River as early as 1903 (Gerald Hoertling 1989: personal communication). During this initial entry, logging did not take place on the steep slopes south of

the river. Thus, by merely assessing the Tate Creek Camps geographical location it can be reliably associated with the second entry period, or most likely sometime between 1914 and 1922. During this second entry the drainages and sub-drainages of Tate Creek and Whiskey Creek were logged by the company for the first time. It is almost certain that the company was able to exploit this relatively steep region due to the availability of two Shay geared locomotives in service from 1911 to 1924 (Hanft 1971:48). These powerful locomotives were not fast, but they had superior traction and could pull very heavy loads. The Shay could also climb a much steeper gradient than standard, rod type engines. According to Hanft (1971:106) the two Shays were initially purchased in order to access large timber stands in the Black Fox Mountain area. Logging in this area was probably completed by the mid to late 1910s freeing the Shays for work in other areas (Gerald Hoertling 1989: personal communication). The availability of the Shays and a war time need for increased quantities of lumber may have made harvesting in the more severe terrain south of the river profitable. Also, initial surveys of the area surrounding the site appear to indicate that a high percentage of Douglas fir (Pseudotsuga menziesii) was cut in this area relative to Ponderosa pine (Pinus ponderosa) (Julie Krieger 1989: personal communication). Both species are represented in abundance within and adjacent to the Tate Creek drainage. In the past, Douglas fir was considered to be an inferior wood, though since the 1930s it has increased in value (Tamez et al. 1988:11) During the early 1900s, however, it was generally an inexpensive wood and exporting cheap wood may have helped fill a war time need.

Special secondary studies will also include dendrochronology conducted by Lester White. This will assist in assigning a precise date for the construction of the grade, logging activities nearby and within the site, and the actual occupational period of the site (Appendix No. 1).

In sum, questions regarding economics, environment and technology are addressed in this report, despite the initial focus on the social/cultural domain. It is hoped that this project will serve to reconstruct, as much as possible, the short history of the Tate Creek site, both in regard to how it functioned as a logging camp and in regard to the role it played within the McCloud River Lumber Company system. Ideally, the project will provide a window through which many aspects of life within a temporary logging camp of the period can be viewed.

PREVIOUS STUDIES

Archaeological survey of the McCloud River Railroad system was initiated in 1978 by Forest Service archaeologists. Field surveys in advance of timber sales within the McCloud Ranger District continue to locate and identify sites associated with the system. In conjunction with field survey, surviving historic records obtained from the Heritage Junction Museum, Champion Corporation, and the McCloud River Railroad are used to plot mainline grades, logging spurs and associated sites on a base map. This map is housed within the McCloud Ranger District and is continually updated as new sites associated with the system are identified.

As mentioned previously, 32 "representative" sites or features associated with the system have been determined to be eligible for inclusion in the National Register of Historic Places as an historic district. As explained in the Determination of Eligibility, the 32 sites were included because they were determined to have retained;

> "....the best potential to yield important archaeological data which would supplement the existing archival record and aid in identifying the company's uniqueness within a broader context of rural economies, industrialization, technological change, and the modern world economy." (Krieger 1988:2).

These 32 sites are considered to be a thematic group which contains representative samples of all site types including saw mills, logging camps, maintenance stations, water towers, railroad mainline, spur grades, trestles, and historic landscapes. All sites within the district possess integrity of location and setting (Krieger 1988:2-3). For the most part, these selected sites have not been disturbed by modern development (recent logging, road building, recreation etc.).

The McCloud River Lumber Company was incorporated in 1896 and was sold in 1963 to the U.S. Plywood Corporation. Some of the original company maps and records still exist, however, all of the earliest records housed in the main office in San Francisco were lost in the 1906 earthquake and subsequent fires (Krieger 1988:9). Much of post 1906 company documentation was destroyed in the mid-1960s when U.S. Plywood Corporation was "cleaning house." Those records that do exist are maintained by the McCloud Ranger District, the Heritage Junction Museum and the Champion Corporation. Included among the existing documents are some of the original right-of-way maps, accountants' ledgers, and the single surviving inventory ledger for the years 1912, 1913, and 1914. This ledger represents an extensive inventory of all material assets held by the company during each of those years. The ledger has proven to be very valuable during this project.

The Tate Creek Camp is only the third site to be the subject of intensive historical and archaeological investigation within the McCloud River Lumber Company and the McCloud River Railroad system. Two sites were previously investigated by Trudy Vaughan in 1985: the TramRail (F.S. No. 05-14-61-286) and Chippy Spur (F.S. 05-14-61-338) sites. Both date from the third phase of the McCloud River Lumber Company and Railroad operations (1917-1930) These phases will be discussed in Chapter 2.

The TramRail site was a small camp located on a saddle in relatively mountainous terrain. Although it had been impacted by modern road building, three separate board scatters, three pits, the partial remains of a railroad car, and a refuse deposit were investigated (Vaughan 1985b:16-25). The results of this investigation tentatively identified the site as a construction camp (Vaughan 1985b:72-73). The presence of the tram rails were believed to be suggestive of railroad grade construction. Tram cars were often used to transport excess materials away during the construction of a cut, or to transport in materials during the construction of a fill. No personal items except tobacco tins were noted at this site.

From historic records, Chippy Spur is known to have been a large camp located at the junction of the mainline grade and a spur grade which runs north off the main grade. It is one of very few McCloud camp sites which retains its historic name in addition to its camp number. Little evidence of structural remains was noted, but numerous refuse pits and surface refuse scatters were observed and investigated at this site (Vaughan 1985b:26-53). Not all pits exhibited refuse, and not all refuse was deposited into pits, however, the majority of the kitchen refuse had been deposited and partially buried within several of the pits. This included over 1,000 tin cans of assorted sizes, condiment bottles, broken ceramic plates, enamelware and other kitchen related artifacts. The vast majority of personal items were noted within diffuse surface scatters. The topography of the Chippy Spur site was level with little evidence of skid shacks or tent remains. A large landing next to the spur held some scattered surface artifacts including numerous tobacco tins and other personal items. Site integrity was quite poor due to the construction of the landing. One surface deposit exhibited nails, ash, melted glass and metallic clothing parts (grommets, buckles and clasps) in a concentrated burn area. During these investigations Vaughan placed particular emphasis on the kitchen refuse located in various pits. She developed a can inventory form for field use and accomplished a careful analysis of can typologies and frequencies at both sites. Although items of a personal nature were recovered at Chippy Spur, it was concluded that the "artifacts do not provide any clue to the ages, ethnic affiliation, or economic status of the men, nor the presence of women" (Vaughan 1985b:72). Data acquired through these investigations will be the focus of comparison with data obtained from the Tate Creek site.

Two other studies have been completed within the Shasta-Trinity National Forests relating to historic railroad logging operations. The first was Baker and Shoup's historical and archaeological investigation of the M.A. Burns - Castle Crags Lumber Company, a historic narrow gauge railroad logging system (Baker and Shoup 1979). As part of this project, considerable archival research and oral interviews were undertaken as well as archaeological research at one logging camp (F.S. No. 05-14-59-45) located on the Mt. Shasta Ranger District. The camp site was carefully mapped and numerous artifacts were collected and analyzed. Among the interesting features in this camp was a standing skid shack. The analysis of these materials led Baker and Shoup to conclude that the "the artifacts and features found at site No. 05-14-59-45 in general reflect a highly functional and impersonal life style, as would be expected in a site and occupation of such transience." (1979:70).

The second major study concerned the LaMoine Lumber and Trading Company which operated a narrow gauge railroad logging system south of the Castle Crag system. Trudy Vaughan (1985a) undertook historical and archaeological investigations of the system which operated from 1904 to 1923. This system was located in relatively severe terrain west of the Sacramento Canyon. Unlike the M.A. Burns - Castle Crags operation, this narrow gauge system was not directly connected to the Southern Pacific by rail. A flume system transported lumber down from the mills to a box factory located next to the Southern Pacific mainline. This study produced a great deal of information through the skillful combination of archaeological field work, oral interviews, archival investigations and the use of outside specialists. Vaughan focused on the overall operation of the system in terms of the four previously mentioned research domains. As part of the study, historical archaeological investigations were conducted at five logging camps. Through oral interviews and archaeological field work, a limited amount of data were obtained regarding the ethnicity of the lumber workers. These studies pointed to presence of both Chinese (as cooks) and women within the camps. Some informants indicated that women were present in camps as both hired cooks and as family members (Vaughan 1985a:104-105) but the archaeological evidence supporting this contention was not abundant.

A major thematic study of the historic logging systems within the Goosenest District of the Klamath National Forest was conducted by Laurence Shoup (1981). This study focused on the Weed/Long Bell railroad logging system, as well as a number of other smaller logging operations within the Forest boundaries. The study was primarily historical in nature and information obtained through archaeological survey supplemented the data base. The Weed/Long Bell operations had much in common with the McCloud operations including direct access to, and a good working

relationship with, the Southern Pacific Railroad. The McCloud Lumber Company and the Weed Lumber Company interacted with one another considerably, selling one another locomotives at various times (Hanft 1971:89, 94, 97). Both systems were extensive and went through similar evolutionary changes through time. Although the time sequences or phases suggested for the Weed/Long Bell system (Shoup 1981:4) varies somewhat from that suggested for the McCloud operation (Krieger 1988:10-14), it is clear from the existing literature that these two separate systems developed along very similar lines. There has been, as yet, no intensive archaeological investigation of individual logging camps within the Weed/Long Bell system.

The McCloud River Lumber Company differed from smaller companies like the M.A. Burns - Castle Crag Lumber Companies and the LaMoine Lumber and Trading Company in many ways. The McCloud Company's scope of operations was much greater. It operated with standard gauge rails, owning and utilizing numerous locomotives at a given time and had a large inventory of rolling stock. The two smaller companies operated narrow gauge systems which were better suited to the steep terrain that had to be negotiated. The two smaller companies operated only a few locomotives at any given time and their inventory of rolling stock was much more limited. The McCloud operations concentrated on the flat timbered country east of Mount Shasta with occasional episodes of logging in steeper terrain. Both of the smaller companies were out of business by 1930. This follows a general economic trend beginning in the late 1920s. Economic recession/depression, the increased efficiency of truck and tractor operation, and the depletion of existing stands of timber forced the closure of numerous small logging operations (Supernowicz 1986:12-13). But, the McCloud River Lumber Company not only survived the depression but continued in operation until its purchase by the U.S. Plywood Corporation in 1963. Although railroad logging ceased in 1963 with the new ownership, trains still operate delivering lumber and additional goods along the mainline to its connections with the Southern Pacific in Mt. Shasta City and Great Northern at Lookout Junction.

CHAPTER 2

HISTORICAL BACKGROUND

This background history is presented in two parts: first, a brief history of the system, and second, a more detailed account presenting what is known about past logging activities within the Tate Creek drainage and in nearby areas. The history of the McCloud River Lumber Company and Railroad has been presented within the Determination of Eligibility by Julie Krieger (1988: 9-13). Krieger's work has been augmented by the assistance of Gerald Hoertling, Archaeological Technician for the McCloud Ranger District, a lifetime resident of the McCloud area, and local historian. Krieger has also relied on Robert M. Hanft's book Pine Across the Mountain (1971). Although written for railroad buffs and for a general audience, this book represents a very valuable source of collected information regarding both the McCloud River Lumber Company and the railroad system. The following brief history of the general operation of the system is gleaned largely from Hanft and Krieger except where otherwise noted. The history of the Tate Creek operations is obtained primarily from Archaeological Reconnaissance Reports, historic files maintained by the McCloud Ranger District, and the personal knowledge of Gerald Hoertling.

A BRIEF HISTORY OF THE McCLOUD RIVER LUMBER AND RAILROAD COMPANIES

During the mid 1800s, it was recognized that vast stands of virgin timber existed east of Mount Shasta. The geography of the area consists primarily of large flats created by the combination of repeated volcanic eruptions of the mountain and eruptions from the southern Modoc Plateau which, over time, covered the area with ash and lava flows. Timber would have been easy to exploit except for the problem of access into the flats from the west side of the mountain where the closest population centers existed. With the completion of the Southern Pacific Railroad

mainline through Sisson (Mt. Shasta City) in 1886, the large scale exploitation of these eastern timber stands became a serious possibility. By the 1890s numerous small lumber mills had been established in the region, including one near present day Bartle, one on Ash Creek, and several others in the vicinity of Squaw Valley. There was a failed effort to extend an existing narrow gauge railroad from the Sacramento River Canyon up through the Soda Creek Drainage to a saw mill at Bartle. During the early 1890s an individual named Friday George bought up a great deal of land between Strawberry Valley and Squaw Valley. He built a mill and a small village at a site located at the north end of Squaw Valley. He also built a wide road from the mill site over the pass down to the Southern Pacific track. It was his intention to transport lumber using large steam driven tractors from the Squaw Valley mill to the Southern Pacific mainline at Sisson. The mill and road were completed and in operation on schedule, but Friday George had over extended himself financially and he went bankrupt early in the summer of 1895.

Enter George W. Scott and William W. Van Arsdale, engineering graduates from the University of California and managers of the Siskiyou Lumber and Mercantile Company based out of Sisson. In June of 1895 the Squaw Valley mill and all associated properties were sold to these two businessmen by the Bank of Shasta County. They immediately began planning a standard gauge railroad from Upton, a station on the Southern Pacific located two miles north of Sisson, to the Squaw Valley mill. Scott and Van Arsdale, along with four additional stock holders, formed the McCloud River Lumber Company in February of 1896. Construction of the railroad was underway by July of the same year. The grade was first constructed up the west side of the mountain. This was due to the fact that good stands of timber could be harvested and transported immediately to an existing saw mill at Upton, located adjacent to the Southern Pacific mainline, just north of Sisson. In January of 1897 the McCloud River Railroad was incorporated. It was formed as a separate entity with no legal connection to the lumber company, however, most of the stockholders of the lumber company also owned a majority of the railroad company stock. The Squaw Valley mill was reached by rail in July 1897.

Krieger (1988) has devised a historical sequence in order to better examine the growth and development of the McCloud River Lumber and Railroad Companies. These sequences, or phases, are broken down into four time periods. It is recognized that these time periods are somewhat arbitrary with some overlap in terms of new technology being adopted and old practices being retained. These periods are as follows: 1) 1896 to 1907, 2) 1907 to 1917, 3) 1917 to 1930, and 4) 1930 to 1964. The remainder of this history will be organized in line with these time periods.

Period 1, (1896 - 1907): This period is represented by the establishment and early expansion of the lumber company and railroad. After reaching the McCloud mill (so named in 1897), the railroad expanded northeast from McCloud up as far as an existing saw mill on Ash Creek. The mill was acquired by the company and modernized. Track reached the mill in 1901 but the Ash Creek operation was completely destroyed by fire in 1903. It was decided not to rebuild the mill but the track continued to be utilized as a logging spur. Mainline grade was also aimed directly eastward toward Bartle which was reached in 1905. During this period, timber along the headwaters of the McCloud River was accessed by rail for the first time. In 1902 substantial interest in the company was sold to a group of capitalists based in Minnesota, and by 1905 Scott and Van Arsdale had left the company that they had founded. The San Francisco earthquake of 1906 destroyed the company corporate headquarters and all records housed there were lost. By 1907 the mainline extended 15 miles north of Bartle in an ongoing effort to reach Klamath Falls, Oregon. At this time, Klamath Falls had not yet been connected with any railroad system. By the end of this period over 30 miles of logging spurs existed. It has been suggested that in an early rush to lay mainline grade north toward Klamath Falls, many prime stands of timber that could have been immediately accessed were passed by (Gerald Hoertling 1989: personal communication). By the time the Klamath Falls goal had been abandoned (ca. 1907) the company had begun to go back and start "picking up" stands that had been past by earlier.

During this period logs were moved in the woods primarily through the use of draft horses and oxen pulling "big wheels" and large four wheel wagons. Early steam donkey engines were used to load logs onto flat cars. The early movement of logs in the woods was also facilitated by large steam driven tractors. Logging camps were reported to be crude and quite rough, offering few amenities to the men who would commonly work up to a 14 hour day. One logging camp along the upper McCloud River has been identified as dating to this period. The site is now a popular camping and fishing spot, but still retains its historic place name, Camp 4.

Period 2, (1907 - 1917): This period is marked by continued expansion of logging railroad spurs in the woods. The number of individual logging camps increased. This expansion included areas that had been previously logged by other smaller independent mills in the area. The company would operate up to five major logging camps at a time. In 1907 the railroad connection at Upton was abandoned in favor of a connection at Sisson. Although the lumber company and the railroad were originally established as separate entities, in 1914 the lumber company totally divested itself of its railroad stock. Thus, the lumber company and the railroad became officially and financially independent.

One of the most significant innovations within the logging industry during this period was the increasing use of the steam powered donkey engine. The McCloud River Lumber company relied heavily on steam donkeys during this period. Donkeys began to replace horses, especially in steep terrain, for moving logs from the stump to landings where they would be loaded onto flat cars. Steam donkeys were more efficient than horses and allowed for increased production. Steam donkeys remained very popular well into the 1920s until gasoline powered tractors began to replace them.

The lumber company began to enter areas exhibiting more severe geography. Two geared Shay locomotives were purchased in 1911 which allowed the lumber company to penetrate into steeper country. It is likely that the availability of the Shays and a generally expanding world market worked together to make the re-entry into the McCloud River headwaters region profitable. The onset of World War I expanded the market for timber exports. The Shays could penetrate further up the canyons south of the river than the heavier Baldwins which were common to the system. Gradients as steep as 13% and extreme curves could be handled by the Shay (Koch 1971:133). Areas either entered for the first time or re-entered included the Black Fox Mountain region, the Harris Mountain region, and the drainage systems south of the upper McCloud River.

Period 3, (1917 - 1930): The McCloud railroad system continued to extend into areas further east of McCloud. After World War I, railroad logging spurs were managed and maintained by the lumber company. The rails were leased from the railroad company. Starting in 1920, the railroad served as a common carrier for Pacific Gas & Electric during construction of a powerhouse near the Pit River.

Important advances in technology took place during this period. One of the most significant advances was the introduction of the "caterpillar" type tractor. Tractors were more efficient, less dangerous to operate and considerably less damaging to the environment that the steam donkey. Selective harvesting was easier to manage. This was especially important because the McCloud River Lumber Company began logging government planned timber sales on federal lands around 1920. The Forest Service would not allow for the kind of damaging clear cutting practices that had been common earlier with steam donkey logging. Steam donkeys had also been a major cause of forest fires. During this period logging trucks began to appear. By 1930, truck and tractor logging was becoming increasingly cost effective. Fewer railroad logging spurs were needed to access timber and fewer numbers of workers were needed for field operations.

Another alteration occurring during this period involved the organization of the logging camps. Large centralized logging camps began to be established during the early 1920s, replacing the smaller, more temporary camps. These large camps resembled small towns more than logging camps. They typically had housing for workers and their families, stores, schools, and a post office. At least one camp (Hambone, F.S. No. 05-14-61-427) had a railroad yard and machine shop.

Period 4, (1930 - 1964): In 1931 the main line was completed to Lookout and connected with the Great Northern Railroad. The company weathered the depression years and continued to operate through the years of World War II and through the 1950s. The early 1950s saw the third and final entry into the high country south of the upper McCloud River. Railroad grade was constructed to access timber located on Hearst Corporation lands. Railroad grade was also laid to connect with lumber mills in the Burney Valley. The Burney line was officially opened in 1955. Thus, the railroad system had become quite extensive by the time the lumber company, the town of McCloud, and all of its associated land holdings were sold to the U.S. Plywood Corporation in 1963.

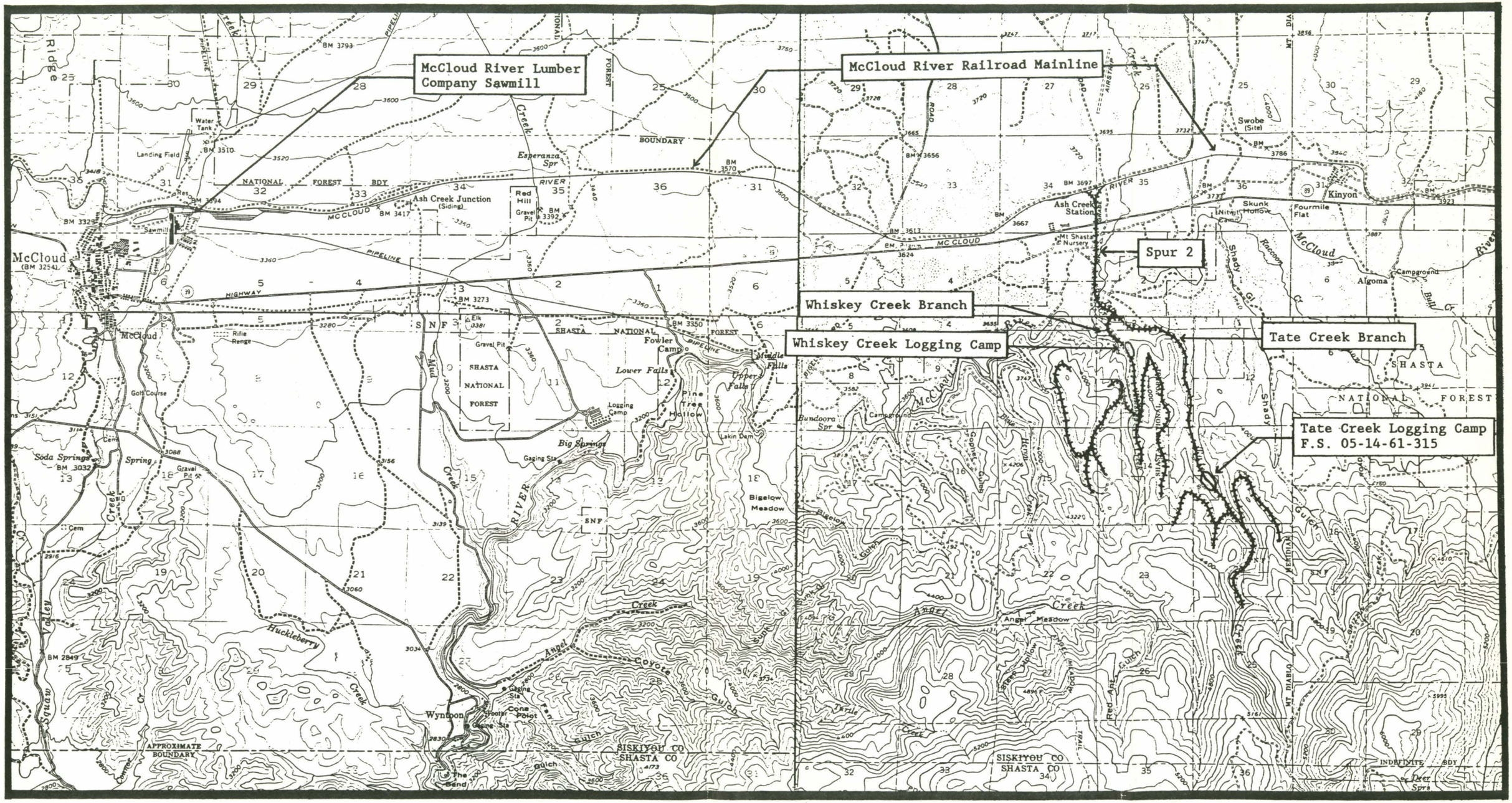
HISTORIC RAILROAD LOGGING OPERATIONS IN THE TATE CREEK AREA

The exact sequence of the McCloud River Lumber Company's historic logging operations along the upper portion of the McCloud River remains unclear. This region includes the drainages between Bigelow Meadow to the west and the McCloud River headwaters area just south of Bartle to the east (Map No. 2). The progression of logging activity is not well understood because the surviving railroad logging spur maps indicate that the spurs do not appear to follow any consecutive order in their numbering system. In general, it is known that company logging operations in the McCloud River headwaters area occurred during three distinct episodes. The first entry probably occurred shortly after 1900. This entry extended along numerous spurs and sub-spurs from the mainline south toward the river. There were at least seven major spur grades that branched off the mainline during this initial entry. One spur, designated as Spur 2, crossed the McCloud River at its confluence with Tate Creek. This first entry did not extend far across the river. The geography south of the river is characterized by series of steep ridges. There was no attempt to harvest timber in this area during the initial entry. This was due, in part, to the inability of the rod powered Baldwin locomotives to handle steep country. At this time, as yet untapped forests were still located in level country to the north and east. Although farther from the McCloud mill, these stands could still be harvested with greater ease and profit.

The second entry most likely occurred sometime in the mid to late 1910s, and logging operations in the area probably continued up into the early 1920s. The availability of two gear driven Shay locomotives made access into steeper country possible. Also, as the world moved closer to war, the market for lumber was expanding very rapidly (Shoup 1981:63). All through the 1910s the company was expanding and intensifying its operations. Increased use of the steam driven donkey also increased the general efficiency of field operations. During the first entry Spur 2 crossed the river and followed up Tate Creek for a short distance to allow access to the timber located on the gentle terrain near the river drainage. During the second entry Spur 2 was rebuilt and was extended well into the steeper terrain south of the river. The spur had two main branches (Map No. 2). One extended up the Whiskey Creek drainage west of Tate Creek. This branch had extensive sub-spurs and several switchbacks and was likely a major supplier of logs to the mill at McCloud. The Whiskey Creek drainage has been subjected to logging activities for the past 25 years and much of the grade located within and above the drainage has been impacted by access roads, cat trails, and plantations. One unrecorded logging camp site on the Whiskey Creek spur has been severely impacted by logging operations (see Map No. 2 for site location). The second major branch of Spur 2 extended about 3 1/2 miles up Tate Creek. Two lateral sub-spurs switched back and climbed up each side of the drainage where timber could be reached along the eastern and western ridges. The camp was established along this spur on the last flat upstream before the switchbacks.

During the early 1950s another spur was constructed which extended south through the Whiskey Creek area. This spur was new and not a reconstruction of the old Spur 2. The new spur crossed the McCloud River at the same place as the old spur and proceeded south to access timber owned by the Hearst Corporation. The Tate Creek drainage was not affected by this third entry although the Whiskey Creek drainage was re-logged at this time. Modern truck logging has occurred throughout the region during the 1970s and mid 1980s. Unlike the Whiskey Creek Camp, however, the Tate Creek Camp remained largely undisturbed by these activities.

The Tate Creek spur can be characterized as a temporary logging spur for accessing available timber. Such spurs were designed to be constructed at a minimal cost and to last just long enough to log a given area, which typically would average no more than a couple of seasons. Once timber stands had been cut, the track would be removed and the spur abandoned. It is believed that much of the spur was cut within the natural channel of the creek in many places including through the Tate Creek site. In fact, much of the Tate Creek branch apparently followed the creek bed upstream, letting the creek bed serve as the grade cut and a natural degree of gradient. Where it was required to



Map No. 2. Location of the Tate Creek Logging Camp and the Whiskey Creek Logging Camp along Spur 2 ca. 1918-1922. (Adapted from McCloud River Railroad Right-of-Way Map, undated)

stray from the creek bed, the grade would be cut down to the level of the flood plain. One of the most economical means of constructing railroad grade in severe country was to lay logs down crisscrossing a creek and constructing track just above the creek bed (Adams nd: 41, Labbe and Goe 1961:73). Of course, this grade design was also of the most temporary nature. A heavy flood year would almost certainly wipe out this type of grade. Rails, and sometimes the ties, were typically retrieved for reuse when logging along a temporary spur was completed.

Nearby the Tate Creek site, only those portions of the grade which meandered away from the creek bed are still visible today (see Chapter 3, Locus 5). Even those existing cuts show evidence of high water flowing through them. Rail was noted in the creek bed and, with the exception of the camp sub-spur in Locus 4 (see Chapter 3, Locus 4), no portion of the grade could be physically identified through the camp or north of it for approximately 1/2 mile. Several large and very decayed logs were noted along the creek bank in Locus 2 (see Chapter 3, Locus 2). These logs had been shaped square on several sides. Also noted in this area was a tangle of steel cable extending into the creek and across to the opposite bank. These very decayed logs and the cable may be part of the log support structure. Just south of the camp the grade emerges from the creek bed and curves along the eastern edge of the canyon to the previously mentioned switchbacks. This portion of the grade exhibits a "V" cut as it bends toward the switchbacks. Thus, the company was probably unwilling to spend money on expensive trestles and/or extensive cut and fill construction on a temporary spur if they could possibly avoid it.

Only one informant is known to have any memory of the Tate Creek drainage during the 1920s. Ted Kirk, a lifetime resident and former McCloud River Lumber Company employee, has no memory of the camp itself, but he remembers as a child traveling up an old railroad grade in a Model T type vehicle with his family into the Tate Creek drainage. They would travel up the drainage during the summer to pick elderberries. Kirk remembers that they used to cross numerous "log bridges" on their way up the drainage. He also remembers that as the years went by they could gain access to less and less of the drainage as the old bridges washed out.

Additional evidence for the location of the grade exists in the locations of donkey landings. One donkey landing was identified within the camp in Locus 4 (see Chapter 3). Although the landing itself was not recognizable, several obvious skid ruts and several piles of soil were built up from skidding logs which is indicative of a donkey landing. Based on the visibly related features it seems relatively certain that the donkey was located adjacent to the creek bed. It is also apparent that the steam donkey was in use prior to the establishment of the camp as

there is camp refuse deposited within the skid ruts (L4/Feature 2a). Another donkey landing is located within Locus No. 5 directly along side the grade. This area exhibits several broken and discarded steam donkey parts. Finally, aerial photographs dating to 1944, maintained at the McCloud Ranger District, clearly show a skidding pattern fanning out from numerous donkey landings located along the creek bed. Thus, the railroad grade, not immediately recognizable through the site, has been almost entirely wiped out by annual flooding from Tate Creek.

CHAPTER 3

ARCHAEOLOGICAL INVESTIGATION OF THE TATE CREEK LOGGING CAMP

The following discussion describes the camp layout, the methods employed during archaeological investigations and a description of each separate locus. The Tate Creek Logging Camp was divided into 5 separate loci based on clusters of artifacts and features (Map No. 3). Two privies (one standing and one collapsed) and several isolated artifacts were located outside the 5 loci. Within each locus, structures such as privies, and connected or close groupings of residential structures, or tent flats, were designated as features. Because several tent flats might occur within one feature, the individual flats were consecutively lettered (a, b, c, etc.). Refuse deposits and a pit were also designated as features. The designations for specific locations within the site indicate the locus first, the feature second, and tent flat (if applicable) last. Thus, the designation L2/F1/Flat b would denote tent flat b within Feature No. 1 in Locus No. 2.

SITE DESCRIPTION AND GENERAL METHODOLOGY

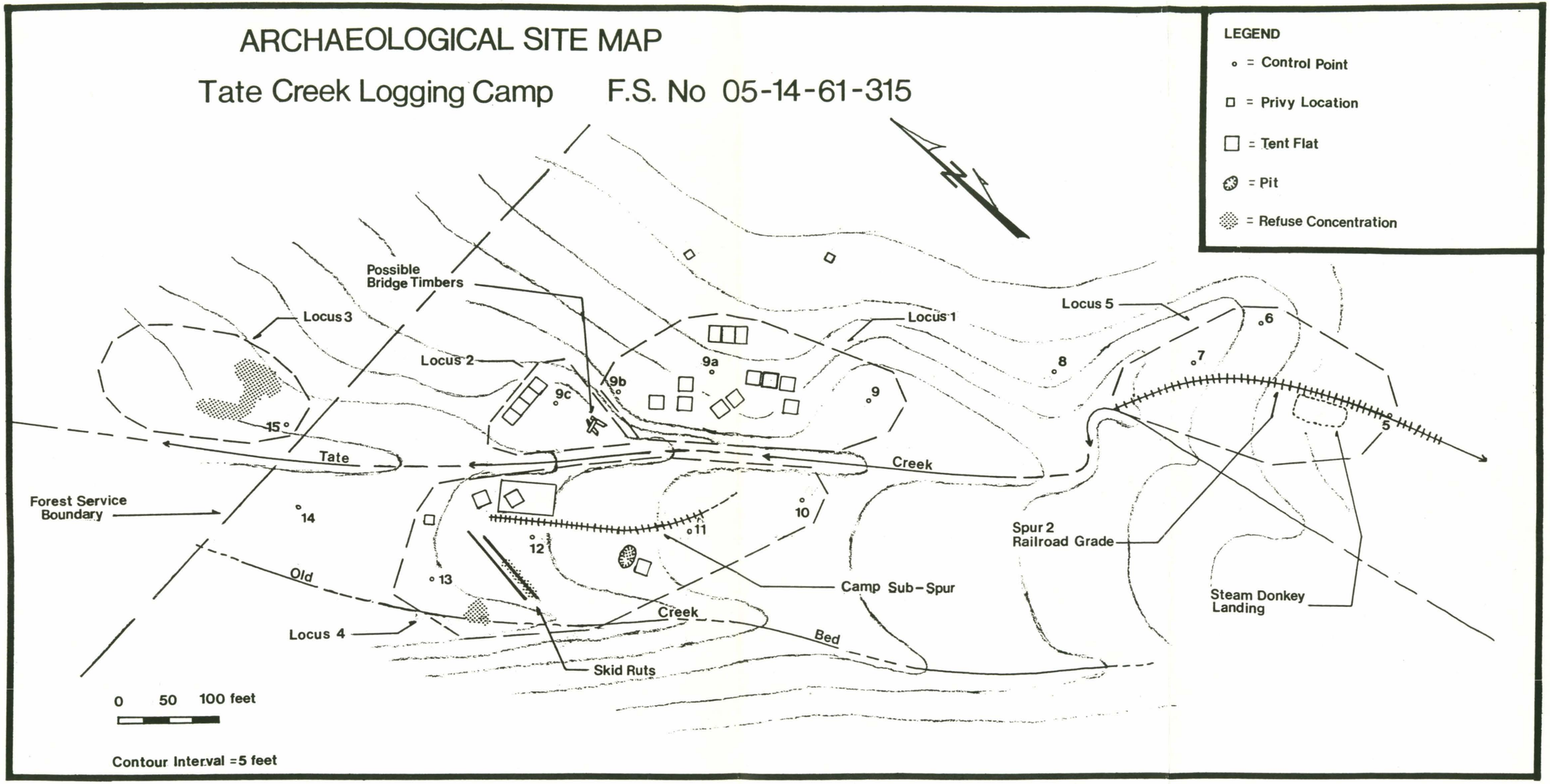
Tate Creek flows north through the site, dividing the major portion of the camp into two halves. Part of the site rests on an alluvial terrace (Locus 4). An old stream bed forms the western boundary of the site. This stream bed, a former channel for Tate Creek, is now overgrown with dense brush but it still held some standing water during the period of fieldwork (June - July). The eastern portion of the site (Locus 1 and Locus 2) is located along a gentle slope above the present stream course. As discussed previously, the location of the railroad grade through the camp is believed to have been constructed along the contemporary creek bed. The only surviving portion of railroad grade within the site boundaries was the short camp sub-spur in Locus 4. This sub-spur curves south and slightly east toward the creek before it becomes masked by thick vegetation and the creek bed.

The initial effort of this project involved clearing brush in order to more precisely map the site. In general, the foliage adjacent to the contemporary creek bed was very dense. This dense vegetation extended up from the stream bed and covered the majority of the camp. Once it was partially cleared, intensive mapping of the site was accomplished by Harold Smith and Bob Turner, Zone Engineers for the U.S. Forest Service, Shasta-Trinity National Forests. Eighteen separate control points were established. The points served as sub-datums during subsequent archaeological investigations. A map was generated by computer and was utilized as the base map for the finished site map included within this report (Map No. 3). Features, structural flats, refuse dumps and selected artifacts were plotted on this base map utilizing the various control points. After thoroughly mapping the site, a controlled surface collection was conducted over the entire site in order to recover additional diagnostically significant surface artifacts.

In all, 19 structural flats, three distinct refuse deposits, a pit, three privies (one standing) and several other features (logging skids, and a steam donkey landing) were identified within the Tate Creek site boundaries. Eighteen of the nineteen structural flats were later identified as 12′ x 14′ tent flats. The remaining structural flat (L4/Flat b) was a large flat that was later discovered to have a standard 12 x 14′ tent floor located within it. Time constraints prevented the total clearing of the site and it remains possible, though unlikely, that additional features and/or flats were not discovered.

Eleven of the 19 tent flats, three refuse dumps and one privy were investigated. The standing privy was also photographed and mapped, but it had already been impacted by "pothunting" activity (the only such occurrence noted) so no further investigation of it was undertaken. In addition, the pit feature located within Locus 4 (L4/F1) was excavated and identified as a possible root cellar. A small concentrated deposit of refuse was discovered at the bottom of this pit.

The methods used in investigating the 11 tent flats consisted first of clearing large brush covering the various flats. This was accomplished using saws, axes and brush cutters. The next phase consisted of clipping and removing smaller ferns and other plants using hand held clippers to reach the actual ground surface. The third and final stage was to gently remove the overburden or duff layer (ranging from 1/2" to 2 1/2" in depth) to mineral soil and reveal what was left of the tent floor structure. This was accomplished by the use of trowels, small buckets, whisk brooms, paint brushes and the continued and intensive use of hand-held root clippers. Because this did not entail the actual excavation of mineral soils, screening the material that was removed was thought to be unnecessary. One 12′ x 6′ excavation unit was established in one of the tent flats (L1/F2/Flat b) early in the investigation. This unit was screened through 1/4 inch mesh (see discussion below). Most of



Map No. 3. Tate Creek Logging Camp, F.S. 05-14-61-315.

the tent flats were located east of the creek in Locus 1 and Locus 2. These flats had been constructed into the side of a southwestern facing slope. The entry for these tents faced downhill to the south and southwest. Through the years duff and some mineral soil had slumped back down onto the rear of the flats where they had been cut into the slope. Therefore, in order to totally expose many of these tent flats it was sometimes necessary to remove minimal amounts of mineral soil toward the very back of the flats during the duff removal stage.

The methods utilized in examining the three refuse deposits (L3/Feature 1, L4/Feature 1, L4/Feature 2a and 2b) closely duplicated Vaughan's (1985b) method of tin can inventory. All four deposits consisted primarily of tin cans. Because such an inventory is a relatively destructive process, each deposit was measured and mapped prior to the inventory. All complete cans were then systematically examined, measured, described and counted. Unique and representative cans were collected for further laboratory analysis. The tin can inventory and analysis is presented in Chapter 4.

DESCRIPTION OF TENT FLATS

Structural flats were located in Locus 1, 2, and 4. These flats consisted of areas that had been excavated and/or filled in to facilitate a level ground surface for the placement of a 12 x 14' pre-constructed wood floor and siding (Fig. No. 2). A tent would have been erected on top of these floors. The wood flooring provided the occupants some degree of elevation above the ground surface. The 1914 McCloud Company inventory ledger lists numerous "12 x 14' portable tent bottoms" (1914:137). All of the flats investigated, with one exception, corresponded to these dimensions. During archaeological investigation, these flats were quickly identified as tent flats due to the fact that the wooden sub-floors had been abandoned in place. No collapsed walls or any related structural remains that might indicate the presence of cabins was noted in association with any of these flats. The size of these flats were considered to be too small to facilitate typical skid shacks. Also, historic photographs of McCloud River Lumber Company camps established during this period (1910 - 1920) typically show numerous tent structures serving as residences in combination with skid shacks (Heritage Junction Museum). Because of this, and because of the high percentage of personally related artifacts found in association with them, it was determined that the tent flats found within Locus No. 1 and Locus No. 2 once served as residences for the camp laborers. Those tent flats located in Locus No. 4 may have served a similar purpose.

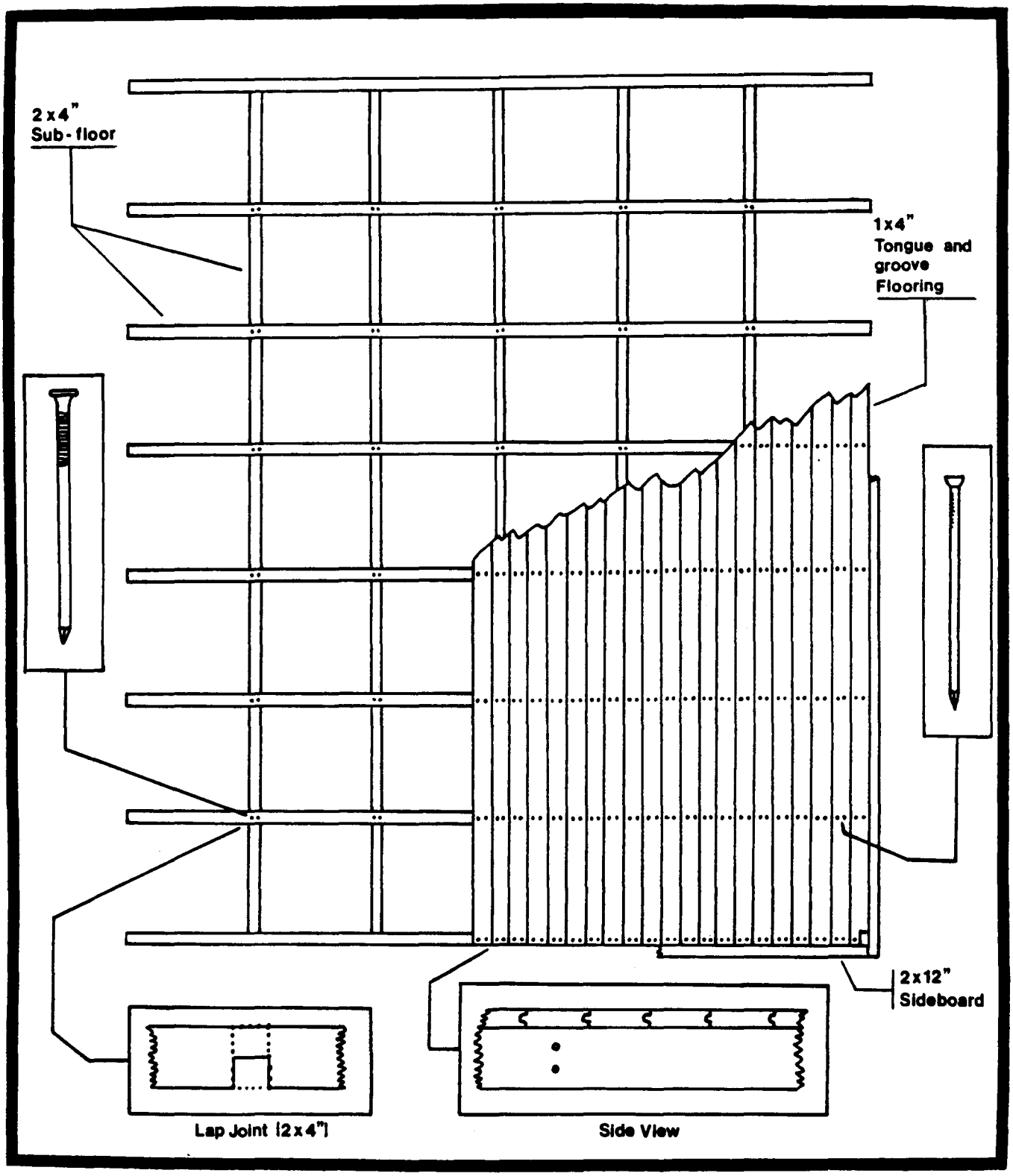


Figure No. 2. Reconstruction of the 12' X 14' wood tent floor.

The physical integrity of most of the tent flats was good in that the thick vegetation tended to hold soils in place keeping the flats from slumping down hill. Preservation of the wooden flooring was poor due to the fact that little was left of the wood that made up the actual tent floor. Great care was taken in order to reveal the construction of these tent floors which, for the most part, had been thoroughly absorbed into the soil. Each investigated flat was carefully mapped noting dimensions of the structure and the positions of all artifacts "in-situ."

Considering their decayed condition, the investigation of the 11 tent floors was relatively successful in revealing the basic construction and the dimensions of the wood sub-structure or tent floors. Like the portable tent floors listed within the 1914 inventory, the Tate Creek tent floors measured 12' x 14' (Inventory Ledger, McCloud River Lumber Company 1912-1914). The construction of the tent floor sub-frame consisted of five 14' long, 2" x 4" boards attached with 8 cross member 2" x 4" boards placed every two feet including 2 boards attached to either end. These boards were 12' in length. Although it was not obvious by examining the cross joints, there would have been a lap type joint where the boards crossed. On top of this frame work was nailed 1" x 4" tongue and groove floor boards. The tongue and groove was attached with finishing nails. The sub-frame was constructed using standard 6, 8 and 12 penny wire cut nails. Along the four sides of the complete floor was attached a 2" x 12" board which extended up along the sides (12' and 14' length). These boards are referred to in the following descriptions as "side boards." These gave the floor a kind of "sand box" appearance. The side of a tent would be attached to the exterior surface of these side boards to deflect rain outside the tent structure. No single flat revealed the entire structural form of these tent floors. The reconstruction of these tent floors was facilitated by combining information from the various flats that were investigated.

LOCI DESCRIPTIONS

The following discussion will examine each investigated locus and the features and artifacts found within them. Artifacts located within each feature or tent flat are organized utilizing a functional classification system (Table No. 1). This system represents a modification of a similar type of system presented by R. Sprauge (1981:255-258). Sprauge's classification system is based primarily on historic artifact function. Those artifacts that are not identifiable as to their original function are classified secondarily on the basis of material of manufacture (1981:251). The use of such a system was considered to be especially appropriate for artifact classification and analysis at the Tate Creek site. As discussed in Chapter 1, part of the primary research focus included the definition of functionally specific areas within the camp. By recognizing

A. KITCHEN GROUP

1. Food Containers
   a. Tin Cans
   b. Fruit Jars/Jar Lids
   c. Condiment Bottles/Jars
   d. Soda/Mineral Water Bottles
   e. Barrel Parts
   f. Other

2. Kitchenware
   a. Pots/Pans/Kettles/Bowls
   b. Ladles/Spoons/Knives
   c. Other Kitchen Equipment (sifters, rolling pins, etc.)
   d. Iron Stove Parts
   e. Other

3. Tableware
   a. Knives/Forks/Spoons
   b. Ceramic Dishes/Plates/Bowls
   c. Ceramic Drinking Cups
   d. Ceramic Serving Plates/Platters
   e. Tin Plates/Cups/Bowls
   f. Enamelware
   g. Drinking Glasses
   h. Glass Pitchers/Serving Vessels
   i. Other

4. Bone
   a. Butchered
   b. Non-Butchered
   c. Unknown

B. PERSONAL GROUP

1. Indulgences: Tobacco
   a. Tobacco Tins
   b. Smoking Pipes
   c. Snuff Cans/Boxes
   d. Other

2. Indulgences: Liquor
   a. Whiskey/Gin Bottles
   b. Ale/Beer Bottles
   c. Wine Bottles
   d. Crockery Jugs/Containers

3. Health and Cosmetic
   a. Medicinal and Apothecary Bottles
   b. Grooming (combs, brushes, shaving, dental)
   c. Perfume Bottles/Vials
   d. Mirrors
   e. Other

4. Clothing
   a. Buttons
   b. Buckles
   c. Shoes/Boots
   d. Gloves
   e. Other Clothing Parts (eyelets, grommets, material)
   f. Sewing

5. Personal Possessions
   a. Toys/Games
   b. Medals and Souvenirs
   c. Luggage/Trunks/Cases
   d. Writing/Ink Containers
   e. Money
   f. Other

6. Firearms
   a. Guns/Gun Parts
   b. Shells/Projectiles
   c. Other

C. ARCHITECTURAL GROUP

1. Construction Hardware
   a. Round/Wire Cut Nails
   b. Square Machine Made Nails
   c. Square Hand Made Nails
   d. Spikes/Tacks/Staples/Screws
   e. Nuts/Bolts/Washers
   f. Hinges/Latches/Doorknobs
   g. Wire (bailing, etc., non-electrical)
   h. Canvas
   i. Electrical
   j. Other

2. Structural
   a. Lumber/Beams/Posts
   b. Sheet Tin/Corrugated Tin
   c. Brick
   d. Window Glass
   e. Other

3. Furniture/Housewares
   a. Sheet Metal Heating Stove
   b. Chairs/Tables/Dressers
   c. Beds
   d. Lamps
   e. Other

D. INDUSTRIAL GROUP

1. Logging
   a. Saws and Axes
   b. Lubricant Containers
   c. Steam Donkey Related
   d. Other

2. Railroad
   a. Rolling Stock Related
   b. Grade Related

3. Blacksmith/Tack
   a. Horseshoes/Tack
   b. Wagon/Buggy Parts
   c. Blacksmith

4. General Industry
   a. Chemical/Poison Bottles
   b. Black Powder Containers
   c. Paint/Varnish Related
   d. Oil Containers
   e. Communication (phone wire, insulators)
   f. Barbed Wire
   g. Other

E. UNIDENTIFIED
   1. Metallic
   2. Rubber
   3. Wood
   4. Plastic
   5. Glass
   6. Ceramic
   7. Other

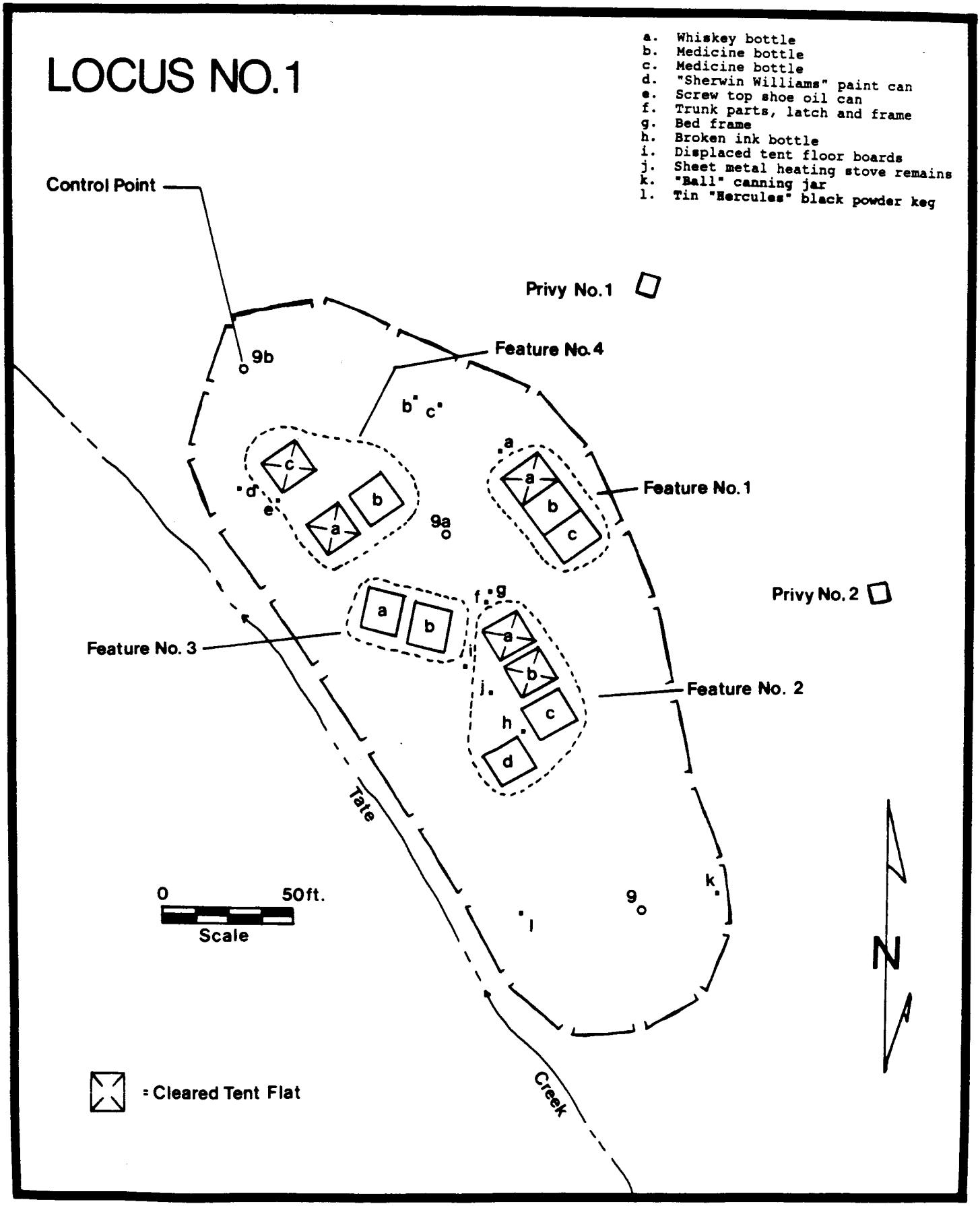
Table No. 1. Historic artifact classification system.

certain percentages of functionally distinct groups of artifacts within the various loci, the placement of specific structures (e.g. the kitchen/dinning facility, foreman's cabin, or a commissary) might be recognized. Thus, by determining the frequencies of functionally specific artifacts associated with a given locus or feature it may be possible to identify functionally specific areas within the site.

There are four broad, inclusive functional categories, referred to as groups, under which all identified artifacts were placed. These broad categories were designated as follows: A. the Kitchen Group, B. the Personal Group, C. the Architectural Group, D. the Industrial Group. These categories were further divided into related sub-categories. A fifth category served as a "catchall" for those artifacts which could not be identified within any primary group. Those artifacts placed within this category were not quantified. Also, boards and nails directly associated with a known structure (tent floor) were not counted. Several artifacts were observed that had been modified from their original form to used for a new or secondary function. These artifacts are noted within the listing (*) and categorized separately. Time constraints prevented the description of every artifact that occurred within each locus. Artifacts recorded during the investigation of the various tent flats include only those noted within or associated with (i.e. directly behind) the 12 x 14' flats.

Locus No. 1

Locus No. 1 is located to the east of Tate Creek on a sloping hillside (Map No. 4). The locus consisted of four features, all of which were identified as clusters of tent flats. Each feature included from two to four tent flats located adjacent to one another. Feature No. 1 consisted of three flats (a, b, and c) in a row with no discernable space between them. This feature was located well upslope from the creek. Flats b and c were not investigated but each exhibited small decayed sections of the 2" x 12" side boards common to the various tent floors. Flat a was cleared and mapped. Feature No. 2 exhibited four tent flats (a, b, c and d) in a row much like Feature No. 1 A five foot wide space between these flats was visible. Flat c was not exactly in line with Flat a and b. A fourth flat, (Flat d) was located off the row, 15 feet south of flat c and was included in this feature. Flats a and b were investigated. Feature No. 3 included two tent flats located approximately five feet apart (a and b), neither of which were investigated. Feature No. 4 included three tent flats (a, b, and c) on a small rise above Feature No. 2 and No. 3. Flats a and c were investigated. No other structural flats or features were identified in this area. Privy No. 1, the standing privy, is located outside the locus, 112 feet north of control point 9a and Privy No. 2, a collapsed structure, is located 130 feet east of the same point.



Map No. 4. Locus No. 1. Tate Creek Logging Camp, F.S. 05-14-61-315.

Locus No. 1 is believed be the subject of a historic photograph (Fig. No. 3). The similarity of the image and the perceived layout of Locus 1 was recognized while reviewing historic photographs at the Heritage Junction Museum. A copy of the photograph was made and brought to the site to compare orientation and land form. The tent structures in the photograph closely match the orientation of the tent flats identified in Locus 1 when facing northeast. The photographer would have faced the tents at an orientation of approximately 30 degrees. The view appears to include the three closely erected tent flats in Feature No. 1 located in the background center of the photograph. Two tent flats and a corner of a third are visible to the right. These match with the first three flats in Feature No. 2. The two tents in the center left would represent flats a and b in Feature No. 3. Tent Flat a from Feature No. 4 is visible just behind and to the left. There is a tent located in the far center left background where no flat was located at the site, but, this area was not cleared and several artifacts were noted in the vicinity. Also, a tent flat was identified behind Flat a in Feature No. 4 (flat b), but the photo does not show a tent in this location. In the photograph, this area is open and may have held a tent prior to the time the photograph was taken or one may not yet have been erected. Although it cannot be confirmed with certainty, the similarities appear far greater than the irregularities and it is believed that it is unlikely that such a close match in landform and residential placement would have been repeated at another camp.

Artifacts noted throughout Locus No. 1 included a broken bed frame and springs, the metallic remains of a small trunk, the decayed remains of a sheet metal heating stove, and decayed stove pipe. The stove fragments and pipe were located just downslope from Feature 2 along with some fragments of corrugated tin. Also noted throughout this locus were numerous railroad ties near many of the tent flats. Some ties had wire wrapped around one end. It is believed that these ties were used as posts to help hold the tent canvas upright. What appear to be railroad ties are visible helping to support tents in the "Camp 5" photograph. Ties were not located near the Feature 1 tent flats. Unlike other tent flat features, these tent flats did not appear to have any space between the flats. Reinforcement for tents located directly adjacent to one another may have been different from those standing by themselves. The five tent flats investigated within this locus and a list of the artifacts noted in association with each is presented below.

Fig. No. 3. Historic photograph of tent structures in a McCloud River Lumber Company camp. The caption in the picture reads: "Poverty Row, Camp 5, McCloud, Calif." It is believed that this may be an historic photograph of tent residences within Locus No. 1 at the Tate Creek Logging Camp (Heritage Junction Museum).

L1/F1/Flat a: This was the first flat investigated. The flat exhibited relatively poor preservation in terms of the wood tent floor. Despite this, it was the only flat investigated with all of the four side boards in place. Two of the corners had 2" x 4" upright posts reinforcing the side board corners. This flat, as all of the identified tent flats, measured 12' x 14'. No intact boards were noted within the flat except a long 2" x 4" board extending across the top of the flat. This board measured 12' 6" long and was not part of the floor. Portions of the 2" x 4" frame boards and fragments of the floorboards were partially visible within the mineral soil layer. Rows of nails were noted inside the flat, apparently undisturbed. By plotting the various nail locations within this flat the structure of the sub-frame was initially suggested. All artifacts recorded consist of those materials noted within the 12 x 14' tent flat.

Artifacts Noted:	Code	Qty.
1. large tin cans (type B)	A1a	3
2. rusted tin plate	A3e	1
3. upright pocket tobacco tin	B1a	1
4. bandage clasp (ace bandage type)	B3e	1
5. small suspender buckle	B4b	1
6. decayed leather glove	B4d	1
7. decayed leather shoe	B4c	1
8. screw top lid to a shoe oil can	B4c	1
9. small pad lock with key	B5c	1
10. saw file	D1a	1

Total:
Group A, Kitchen: 4
Group B, Personal: 7
Group C, Architectural: 0
Group D, Industrial: 1

L1/F2/Flat a: This tent flat was unique in that it was the only flat investigated where it appears that the tent floor was removed. No traces of the sub-frame or front and side boards were observed and no evidence of the rows of nails evident in the other flats were noted here. Several fragmented tongue and groove boards were observed downslope from the flat. They appeared to have been displaced downhill and away from the flat, however, there was an insufficient quantity to account for all of the floorboards from the entire tent floor. It was from these 1" x 4" flooring samples that the floor board was first recognized to be tongue and groove. The feature gave the appearance that the tongue and groove had been pulled up and cast aside and the sub-frame salvaged. Relatively few artifacts were noted within this flat. The remains of one side board, on the rear uphill side of the flat, was located under a layer of heavy duff in a very decayed condition. This board had apparently been left while the two boards on either side and the one on the front were taken. Dimensions were difficult to reconstruct but the flat appeared to measure roughly 12′ x 14′.

Artifacts noted:	Code	Qty.
1. upright pocket tobacco tin	B1a	1
2. medicine bottle	B3a	1
3. shoe lace hook	B4c	1
4. decayed boot	B4c	1
5. shoe eyelet	B4c	1
6. coil of galvanized wire	C1g	1
7. fragments of lamp glass, 2 ea.	C3d	1
8. saw file	D1a	1

Total:
Group A, Kitchen: 0
Group B, Personal: 5
Group C, Architectural: 2
Group D, Industrial: 1

L1/F2/Flat b: This tent flat was located next to Flat a and separated from it by a 5′ space. The boundary was visible as a slight depression between the flats. Unlike Flat a, the tent floor on Flat b had not been removed. After clearing the flat of smaller vegetation it was obvious that the wood flooring had decayed in place. This flat had not been disturbed since its abandonment (Fig. No. 4) but the preservation of the floor was very poor. Some of the framing joists could be seen as

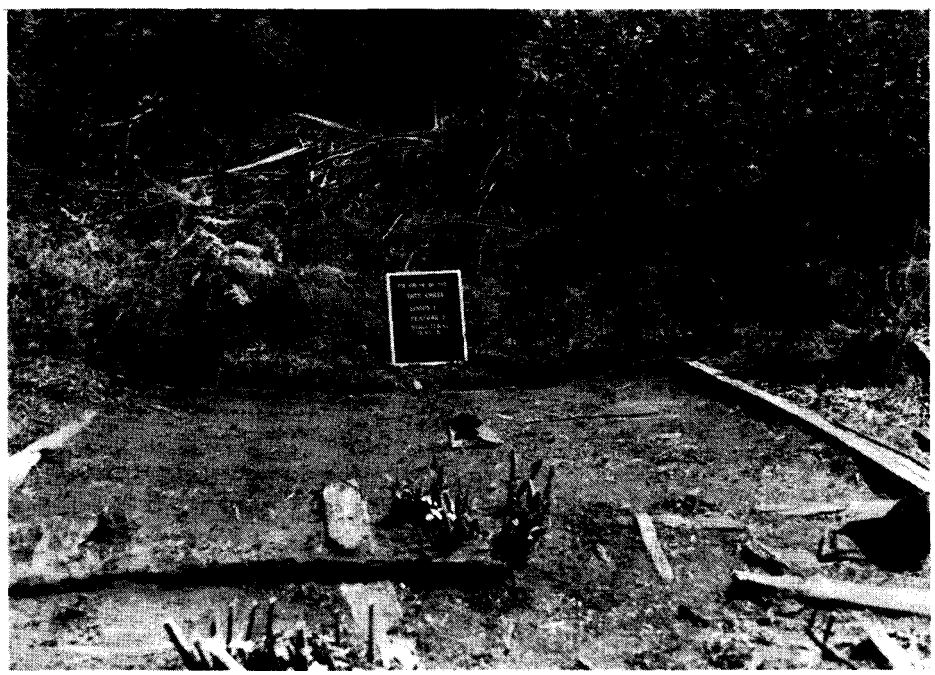


Fig. No. 4. L1/F2/Flat b. Cleared tent flat. Note side boards and fragments of decayed floor boards. (Roll 89-60/Frame 6)

impressions in the soil. The front of the flat exhibited portions of the flooring and numerous finishing nails that attached the tongue and groove to the front joist (Fig. No. 5). Most of the finishing nails were in place and spaced approximately 1" apart. Some fir bark was noted in the western corner of the flat. The presence of bark in the same corner was noted in several other investigated flats. Two side boards were located in place on either side. The rear side board was located under heavy duff and was extremely decayed. The side board was not in place at the front of the flat. Wood screws, fragmented window glass and a latch part were found toward the rear of the flat. These are classified as architectural in function (Group C). It is believed that these artifacts may represent the remains of some sort of furniture item, perhaps shelves with framed glass doors. No wood from any furniture was identified.

Artifacts noted:	Code	Qty.
1. silver tea spoon	A3a	1
2. steel fork	A3a	1
3. pill bottle	B3a	1
4. medicine bottle	B3a	1
5. medicine bottle	B3a	1
6. comb fragment	B3b	1
7. leather boot fragments, 4 ea.	B4c	1
8. leather strap	B4e	1
9. wood screw	C1d	1
10. eyelet with canvas attached	C1h	1
11. fragment of window pane, 1 ea.	C2d	1
12. latch part	C3e	1
13. long strip of iron	E1	
14. tin can, altered and reused	*	

Total	
Group A, Kitchen:	2
Group B, Personal:	6
Group C, Architectural:	4
Group D, Industrial:	0

L1/F2/Flat b, Sub-surface: In order to determine the depth of the cultural deposit and to possibly serve as an aid in comprehending the tent floor construction, a 12′ x 6′ excavation unit was established covering the rear portion of flat b. The soil was excavated using hand trowels, buckets and whisk brooms to a 6" depth. The excavated soil was sifted though 1/4" mesh screen. Several artifacts were recovered toward the back of the slope just beyond the rear side board. These materials were encountered within the first two inches of mineral soil. The cultural deposit did not extend below 4" in depth beyond the rear side board and not below 2" within the tent flat area. The sub-frame of the tent floor was decayed to the point that the only

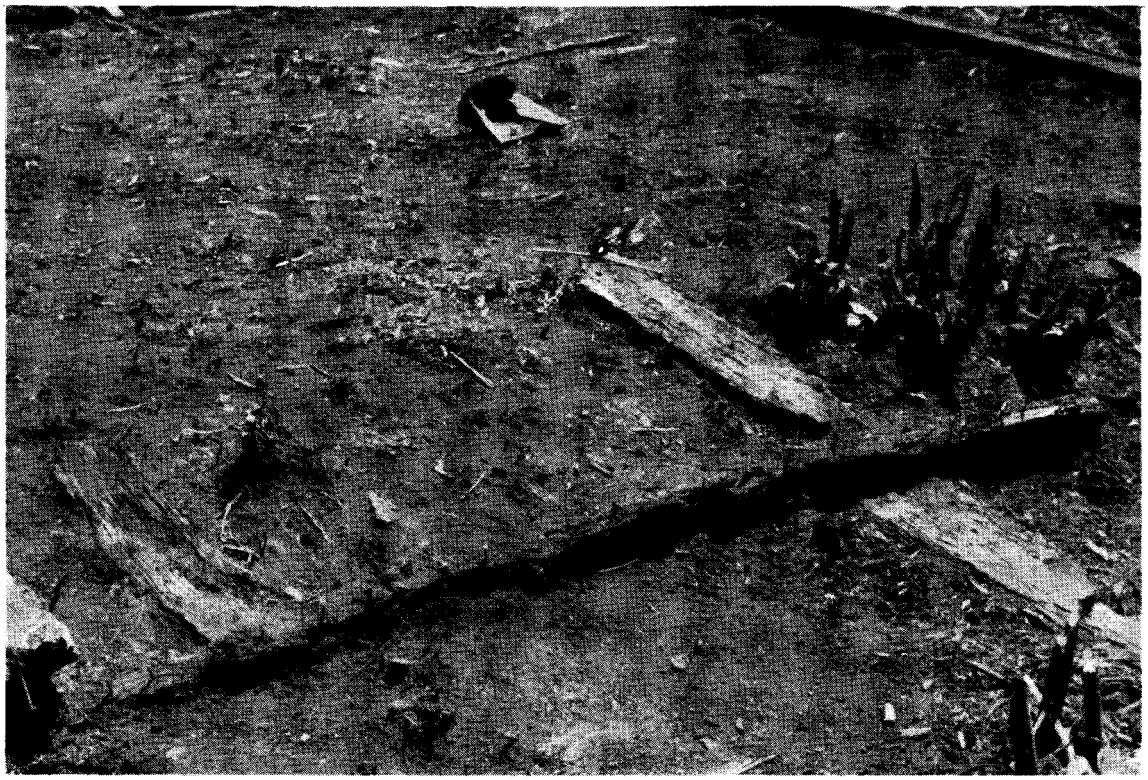


Fig. No. 5. L1/F2/Flat b. Close up of the front corner of the flat showing partially absorbed floor boards. (Roll 89-63/Frame 20)

thing locating it were the nails which were still in place. It was determined that standard excavation units were not efficient in terms of the time invested and the amount of data recovered. Time was better spent exposing additional tent flats to maximize the quantity of comparative data. All artifacts within the excavation unit were collected and analyzed. The artifacts are as follows:

Artifacts recovered:	Code	Qty.
1. condiment bottle	A1c	1
2. smoking pipe stem	B1b	1
3. medicine bottle	B3a	1
4. leather shoe lace	B4c	1
5. small leather fragment	B4e	1
6. newspaper (?) fragments	B5f	1
7. round, wire cut nails, various sizes	C1a	80**
8. wood screws	C1c	1
9. brass washer	C1e	1
10. steel washer	C1e	1
11. electrical connector	C1i	1
12. window pane fragments, 12 ea.	C2d	1
13. small aluminum fragment	E1	1

Total:
Group A, Kitchen: 1
Group B, Personal: 5
Group C, Architectural: 5 (** nails not counted)
Group D, Industrial: 0

L1/F4/Flat a: This flat was located fairly close to the stream bank. As with most other identified tent flats, it had been constructed by cutting into the bank in the rear and shoring up the front with soil to create a level surface. This flat exhibited the same structural patterns which identified it as the remains of a tent floor. Faint traces of the tongue and groove flooring were visible that had been absorbed into the soil. Rows of nails were located along the cross member joists. Brush had grown up through the floor of this flat in the western corner pushing up some floor boards that exhibited a charred surface. These boards were in somewhat better condition than usual because they had been elevated up away from the ground surface. It seems likely that this corner was the location of the heating stove. This would match the location of the heating stoves in the tents shown on the Camp 5 photograph (Fig. No. 3). Also, in the same corner was a deposit of broken, thick chunks of fir bark. Bark was located within several other tent flats, always in the same corner. It appears that the bark was placed here intentionally. The function of this is not known but it seems plausible that it is in some way related to the placement of the heating stoves. The rear and two side 2" x 12" boards were located in place but they were extremely decomposed. The front 2" x 12" board was displaced down slope. Wood samples were taken from the floor boards, the joists and the 2" x 12" side boards for identification of wood type (Appendix No. 1). One long (12') strand of galvanized wire was noted that extended along the northwestern side of the flat. It may have been suspended between two railroad ties, located adjacent to this side of the flat, and used to help support the side of the tent. Another circular or looped section of wire, not galvanized, was noted near the front of the flat. The diameter of the loop matched that of a stove pipe fragment located nearby and it is believed that it was wrapped around the stove pipe elbow joint to help support it.

Artifacts noted:		Code	Qty.
1.	tin cans (type B)	A1a	2
2.	iron stove leg	A2d	1
3.	upright pocket tobacco tins	B1a	3
4.	medicine bottle	B3a	1
5.	medicine bottle, broken	B3a	1
6.	pill bottle	B3a	1
7.	long strand of galvanized wire	C1g	1
8.	loop of rusted wire	C1g	1
9.	saw file	C1g	1
10.	smashed oil can, 5 gal. capacity	D4d	1

Total
Group A, Kitchen: 3
Group B, Personal: 6
Group C, Architectural: 3
Group D, Industrial: 1

L1/F4/Flat c: This particular flat was difficult to clear due to very thick duff tangled with living root systems. The border between the duff layer and mineral soil was not easily defined. The back half of this flat exhibited a greater than average amount of artifacts including a high percentage of artifacts classified under the personal group. This flat appeared to have decayed in place like the others (except L1/F2/Flat a). There was a greater than average amount of lumber located adjacent to the sides and downslope from this flat. Because of this, it was initially believed that the flat might represent the remains of a cabin. Two short 2" x 12" boards (4' length) found just beside the flat had hinges attached to one end. The hinges were relatively large but probably came from a large hinged box lid or a home made trunk rather than any sort of cabin door. A "Sherwin Williams" brand tin can was also noted in the vicinity of this flat as well as a large smashed oil can. The flat was cleared to reveal the decayed remains of side boards and sub-flooring typically associated with a residential tent flat. This flat also measured 12' by 14'.

Artifacts noted:	Code	Qty.
1. upright pocket tobacco tins	B1a	7
2. snuff can lids	B1c	2
3. razor blade sheath, part of the shaver	B3b	1
4. razor blades	B3b	3
5. mirror fragment	B3d	1
6. glass vial with a cork	B3e	1
7. shoe sole	B4c	1
8. screw cap shoe oil can	B4c	1
9. suspender type buckle	B4e	1
10. penny, 1919 date	B5e	1
11. bullet casing	B6b	1
12. electrical wire	C1i	1
13. broom wire	C3e	1
14. saw file	D1a	1
15. railroad spikes	D2b	2
16. small glass fragments, lt. blue, 2 frags.	E5	

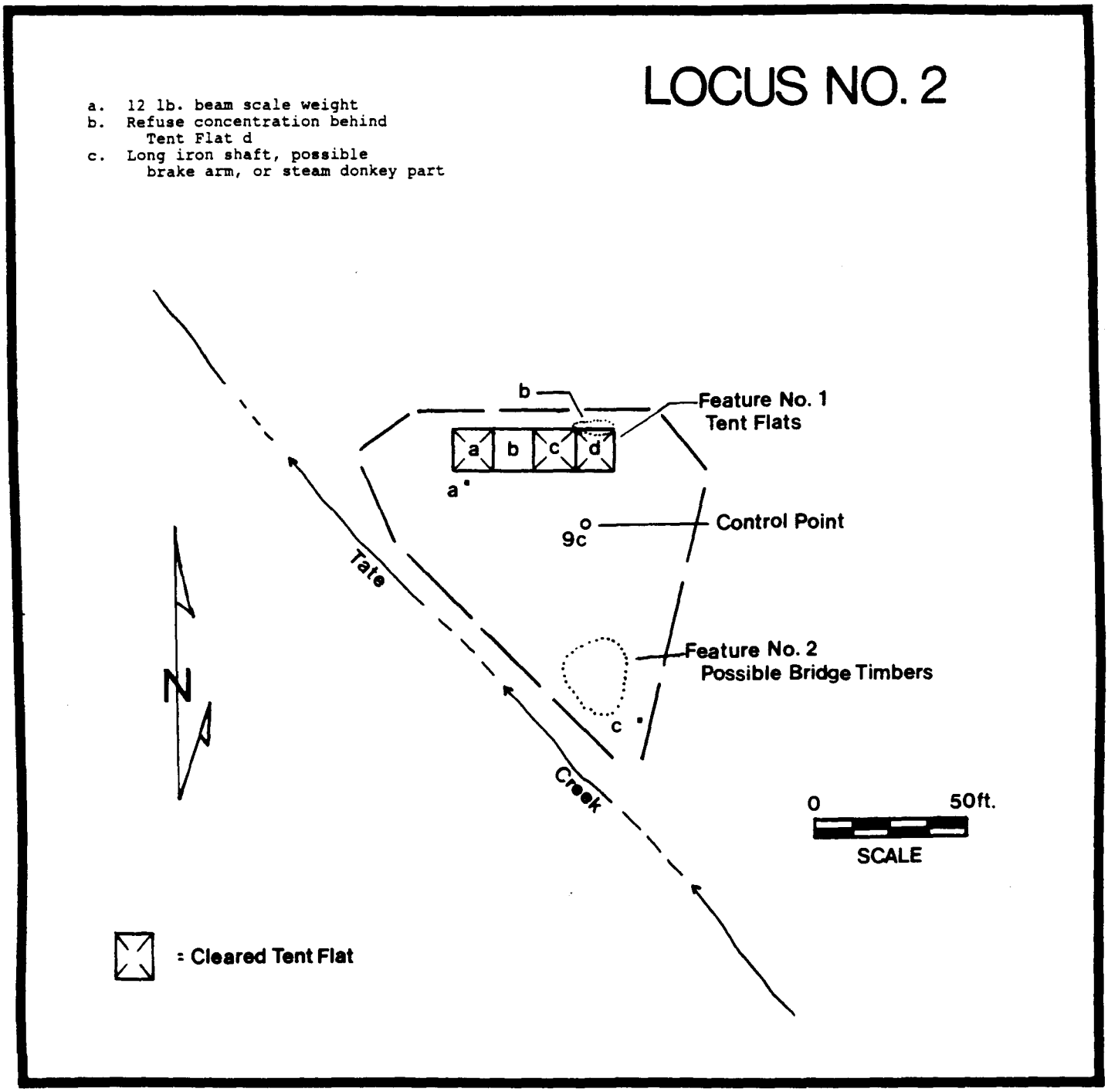
Total
Group A, Kitchen: 0
Group B, Personal: 20
Group C, Architectural: 2
Group D. Industrial: 3

Tent Flat	Kitchen Group (A)	Personal Group (B)	Architectural Group (C)	Industrial Group (D)	Total
F1/Flat a	4	7	0	1	12
F2/Flat b	0	5	2	1	8
F2/Flat b*	3	11	9	0	23
F4/Flat a	3	6	3	1	13
F4/Flat c	0	20	2	3	25
Total	10 (12%)	49 (60%)	16 (20%)	6 (7%)	81

Table No. 2. Total artifact group frequencies recorded within the investigated tent flats in Locus No. 1. * Quantities for L1/F2/Flat b and the sub-surface unit (Unit No. 1) have been combined.

Locus No. 2

Locus No. 2 is located northwest and downslope of Locus No. 1 (Map No. 5). The eastern boundary of the locus was defined by an abrupt rise which appeared to be an old stream bank. Included in Locus No. 2 were two features. Feature No. 1 contained a row of four tent flats and Feature No. 2 consisted of very decayed but very large hewn logs. Very few artifacts were initially visible on the surface of Locus No. 2 except some scattered lumber and a couple of 2' long double threaded long bolts near Feature No. 1, and what appeared to be a brake arm for a railroad car or possibly a throttle arm for a steam donkey near Feature No. 2. Vegetation was extremely dense throughout the locus, especially in Feature No. 1 where the flats were so overgrown that it was not initially recognized as a cultural feature. Once discovered, it was cleared of vegetation and a long structural flat (48' long by 14' wide) was revealed. It was initially believed that this flat might have been constructed to facilitate a long skid shack or tent, however, investigation eventually confirmed the presence of four separate 12' x 14' tent flats (a, b, c, and d) located side by side. The hill behind the flats was steep and the back ends of these flats had a small amount of



Map No. 5. Locus No. 2. Tate Creek Logging Camp, F.S. 05-14-61-315.

mineral soil that had slumped down into them. This material, no more than 6" in depth, was carefully excavated but not screened due to its small quantity. All four tent floors appeared to have decayed in place, though Flat b was not investigated. Like Flats a, b, and c in L1/Feature 1, no space was observed between the four flats and no railroad tie supports were associated with them.

The decayed logs comprising Feature No. 2 may be the remains of part of a temporary log railroad bridge over or along Tate Creek (see discussion in Chapter 2), although there was insufficient remains to confirm this with any certainty. What may be a very short section of grade was visible across the creek in line with the feature. Just south of the logs was noted a tangle of thick cable in the creek that extended on across to the opposite bank. Again, the logs noted were extremely decayed so that accurate measurements were not possible but enough remained of several end portions that the shaped ends were recognizable. It is also possible that these logs might have been associated with a steam donkey frame rather than any type of bridge. The feature was not investigated further.

L2/F1/Flat a: This flat was the western-most flat of the four. Like the other two flats in this feature that were investigated, little remained of the sub-floor except nails and traces of very decayed wood. This flat also lacked any kind of refuse concentration such as that located at the rear of Flat d (discussed below). A deposit of fir bark was noted in the front corner of this flat. As previously discussed, this kind of deposit had been observed in other flats. A deer scapula located on the surface of the flat was probably a phenomena of nature rather than a part of the cultural deposit.

Artifacts noted:		Code	Qty.
1.	tablespoon	A3a	1
2.	drinking glass	A3g	1
3.	bone	A4b	1
4.	upright pocket tobacco tins	B1a	2
5.	medicine bottle	B3a	1
6.	medicine bottle fragment	B3a	1
7.	medicine bottle fragment	B3a	1
8.	steel wire fragment	C1g	1
9.	lamp glass fragment	C3d	1
10.	mousetrap	C3e	1
11.	saw files	D1a	2
12.	railroad spike	D2b	1
13.	small metal strap with wood attached	E1	

Total:
Group A, Kitchen: 3
Group B, Personal: 5
Group C, Architectural: 3
Group D, Industrial: 3

L2/F1/Flat c: This flat was located immediately adjacent to Flat d. In this flat the sub-floor could be recognized primarily by nails and very decayed wood located "in-situ." As with the other flats in this feature, this flat was shored up in front by the use of circular riverwashed rocks and soil. Only a small amount of concentrated refuse was noted at the rear of this flat. This included four upright pocket tobacco tins. Two of the tins were legible enough to be identified as "Prince Albert" cans. One beer bottle was located at the rear of the flat near the center. It was located just outside the end of the sub-floor, probably just beyond the rear sideboard. This area would not have been easily visible when the tents were standing.

Artifacts noted:	Code	Qty.
1. tin can (type B)	A1a	1
2. screw on fruit jar lid	A1b	1
3. upright tobacco tins	B1a	3
4. beer bottle	B2b	1
5. medicine bottle	B3a	1
6. medicine bottle	B3a	1
7. toothpaste tube	B3b	1
8. toothbrush	B3b	1
9. fragment of a thick mirror	B3d	1
10. shoe heel	B4c	1
11. pocket knife blade	B5f	1
12. fragments of a rubber hose	E2	

Total
Group A, Kitchen: 2
Group B, Personal: 11
Group C, Architectural: 0
Group D, Industrial: 0

L2/F1/Flat d: Like the other three flats in this feature, the front of this flat had been shored up with stone and soil while the rear had been cut into the bank. Flat d was located at the east end of the feature. It was cleared of vegetation except for a portion of growth which had the sub-floor center joist located within it. The center joist had been pushed up as the vegetation had grown. Upon clearing the duff at the rear of the flat. A quantity of both upright hinged and flat box type pocket tobacco tin cans was revealed. Almost all of them were at least

partially legible and all were identified as "Edgeworth" brand tobacco tins. Even those upright tins which could not be read were identified as being Edgeworth brand due to the distinctive embossing on the base of the tin (see Chapter 4). Tobacco tins observed throughout the site were typically the upright hinged lid pocket type. Only one other flat tobacco tin was noted within the entire site. It was also an Edgeworth tin. Several of the flat tins located within Flat a had the inner paper lining still intact. Two of these flat tins were 80% or better legible and could still be opened. Both of these were collected as representative samples. An upright Edgeworth tobacco tin in good condition was also collected as a representative sample. A total of 13 upright tobacco tins and 26 flat tobacco tins were noted within this small deposit. Also noted were the extremely decayed remains of light brown paper. It was not connected to any tin but portions of this paper were legible enough to identify it as the exterior packaging for the Edgeworth brand tobacco tins. The paper was carefully removed and collected. One federal stamp was noted attached to the paper. A detailed description of these tins is found in Chapter 4.

Also noted within the deposit, at the extreme rear and along the center portion of the flat, were three intact whiskey bottles and a beer bottle. These four bottles and a beer bottle found in Flat c, next to this flat, were the only liquor bottles located "in situ" within or associated with the tent flats at the Tate Creek Logging Camp. Two of the whiskey bottles were laying side by side and the other whiskey bottle and the beer bottle were laying just beyond them (Fig. No. 6). It seems apparent that these bottles had been "placed" in this spot by the occupant(s) rather than having been "thrown" out the back. The two side by side whiskey bottles would have been positioned just underneath the tent floor and directly to one side of the center joist. It seems very possible that these two uncorked bottles had been placed beneath the floor in order to conceal them. The other two bottles would have been located just outside the tent floor, perhaps being covered with refuse or duff to conceal them as well. The whiskey bottle located outside the floor was corked and retained about a shot glass worth of whiskey. The beer bottle next to it had no closure and was empty.

A small artifact concentration was located at the southeast corner of the flat. This deposit consisted of a concentration of very decayed tin cans which were not identifiable to type or function, a large eight inch long strap of iron, the decayed sole portion of a shoe, a rectangular spice can, a fragment of a medicine bottle, a fragment of a drinking glass, and a broken "Kewpie" doll body with the head and arms missing. No explanation for the large quantity of artifacts occurring in this flat can be given beyond the personal habits of the former occupant(s). As seen below, the vast majority of these artifacts were tobacco tins.

Fig. No. 6. L2/F1/Flat d. Whiskey bottles and tobacco tins located at the rear of the flat. (Roll 89-68/Frame 8)

Artifacts noted:		Code	Qty.
1.	large spice can	A1a	1
2.	condiment bottle, fragment	A1c	1
3.	drinking glass	A3g	1
4.	paper wrap for tobacco tin	B1a	1
5.	"Edgeworth flat pocket tobacco tin	B1a	27
6.	"Edgeworth upright pocket tobacco tin	B1a	13
7.	whiskey bottles, complete	B2a	3
8.	beer bottle	B2b	1
9.	"Mentholatum" jars	B3a	4
10.	medicine bottle	B3a	1
11.	medicine bottle base fragment	B3a	1
12.	"Kewpie" porcelain doll fragment	B5a	1
13.	screw top shoe oil can	B4c	1
14.	sole of a shoe	B4c	1
15.	malleable washer	C2e	1
16.	large piece of iron	E1	
17.	external friction lid can, unidentified	E1	
18.	various small tin fragments	E1	

Total:
Group A, Kitchen: 3
Group B, Personal: 54
Group C, Architectural: 1
Group D, Industrial: 0

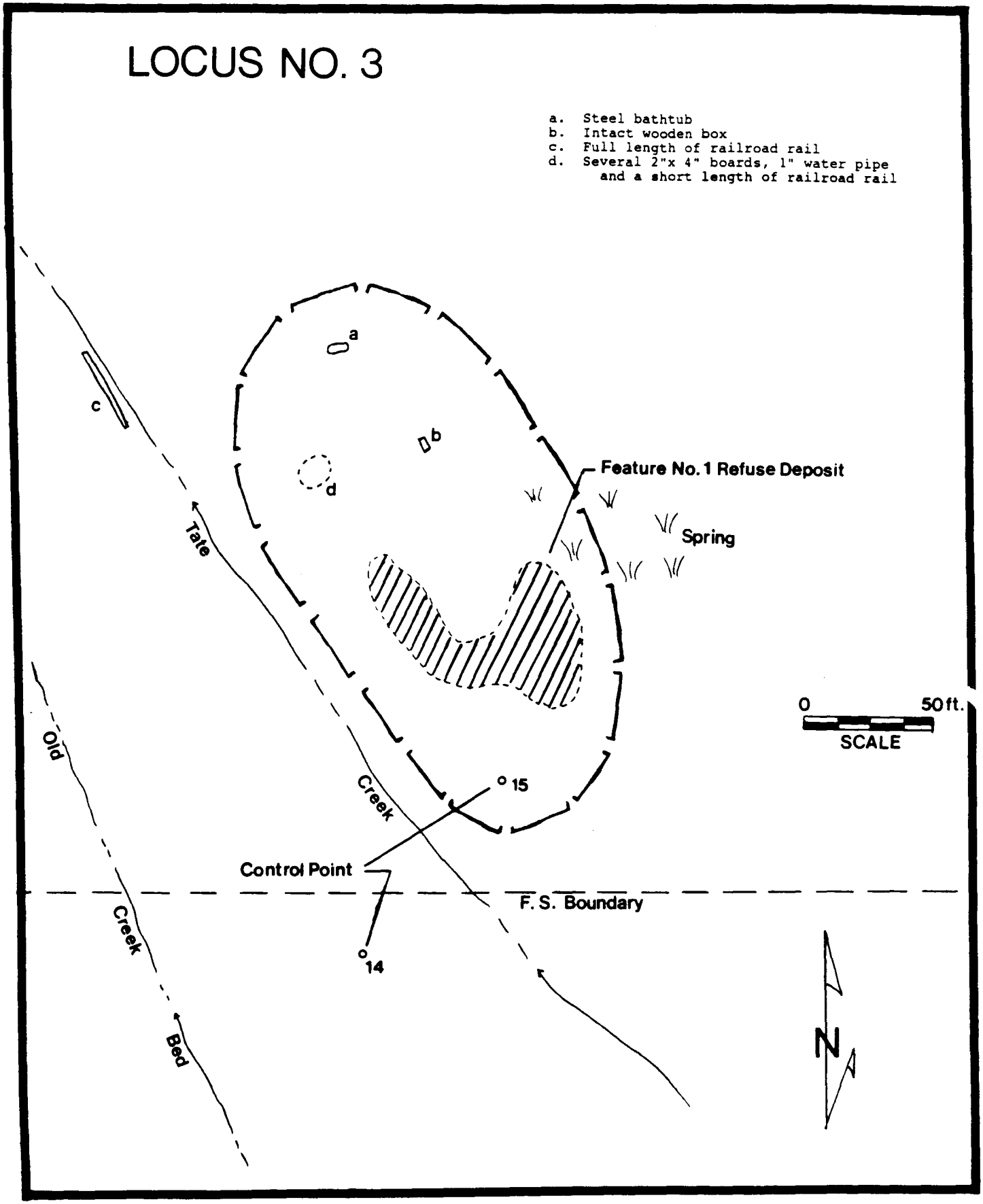
Tent Flat	Kitchen Group (A)	Personal Group (B)	Architectural Group (C)	Industrial Group (D)	Total
Fl/Flat a	3	5	5	3	16
Fl/Flat c	2	11	0	0	13
Fl/Flat d	3	54	1	0	58
Total	8 (9%)	70 (80%)	6 (7%)	3 (3%)	87

Table No. 3. Artifact group frequencies from the investigated tent flats within Locus No. 2.

Locus No. 3

Locus No. 3 consisted primarily of a single refuse deposit, the largest located within the Tate Creek Logging Camp (Map No. 6). This refuse deposit was designated as L3/Feature 1. Besides the refuse deposit, other scattered materials located within this locus included a smashed steel bathtub, two sections of water pipe, an intact, open wooden box (empty), some short sections of rail and a few scattered pieces of milled lumber. One full length of rail was observed in the creek bed just west of this locus. Feature No. 1, the refuse deposit is described below.

L3/Feature 1: Almost all materials that could be identified within this feature were associated directly with kitchen refuse, including 1,023 tin cans (Fig. No. 7). The only exceptions were three smashed garbage cans, one broom wire, and a length of 1" thick steel cable running through the deposit. All of the tin cans were measured, described, and counted, and representative samples were collected. The tin can inventory and analysis is presented in the Chapter 4. Aside from the tin cans, additional kitchen related artifacts observed included the fragmented remains of two glass milk pitchers, the remains of one "Ball" canning jar and a zinc cap with a glass insert, numerous small fragments of ceramic plates and cups, an enamelware handle for a cooking pot, a soup ladle with no handle and one butchered bone fragment. The fruit jar was the only glass container aside from the pitchers, noted within the entire refuse deposit. The



Map No. 6. Locus No. 3. Tate Creek Logging Camp, F.S. 05-14-61-315.

ceramic fragments were all confined to the eastern portion of the deposit. One broken cup and three plate fragments with maker's marks were collected.

No sign of any structures was noted within Locus 3. If there was a cookhouse in the vicinity of this deposit, all evidence of it had disappeared. It does not seem likely, however, that the cookhouse would have been located too close to the refuse deposit or so far from the rest of the camp. Refuse coming from the kitchen can be described as "wet" garbage; obviously very attractive to scavenging animals and insects. At the Chippy Spur, site kitchen refuse was transported out of camp and buried (Vaughan 1985b). Bone was found in refuse pits at both the TramRail site and Chippy Spur (1985b:68). Bone was rare within the various refuse deposits at Tate Creek. It may be that the bone refuse was buried separately from the other kitchen refuse or, believed more likely, scavenging animals or camp dogs may have removed the majority of this material as it was being deposited.

It is interesting to note this deposit does not represent a common dumping area for the entire camp. Only kitchen refuse was transported to this deposit. During the inventory, particular attention was paid to variation between this deposit and the other deposits within the site. The other deposits were much smaller and located closer to features and structural flats in Locus No. 4. The smaller deposits exhibited some items classified within the Personal Group as well as kitchen related artifacts. It is also interesting to note that, although garbage cans have been classified as type C3 (Architectural, Housewares) the only other place where such items (garbage cans) were noted was in L4/Flat b. This is the area where it is believed the cookhouse was located.

Artifacts noted:	Code	Qty.
1. tin cans	A1a	1023
2. fruit jar, 5 fragments	A1b	1
3. zinc canning jar lid	A1b	1
4. canning jar lid glass insert, 2 fragments	A1b	1
5. barrel hoops, 3 ea.	A1e	1
6. enamelware pot handle	A2a	1
7. ladle without handle	A2b	1
8. porcelain plate fragments, approx. 30 ea.**	A3c	8
9. porcelain cup fragments, 9 ea.	A3c	2
10. glass milk pitcher fragments, 6 ea.	A3h	2
11. grub boxes	A3i	2
12. bone	A4a	1
13. broom wire	C3e	1
14. smashed garbage cans	C3e	3

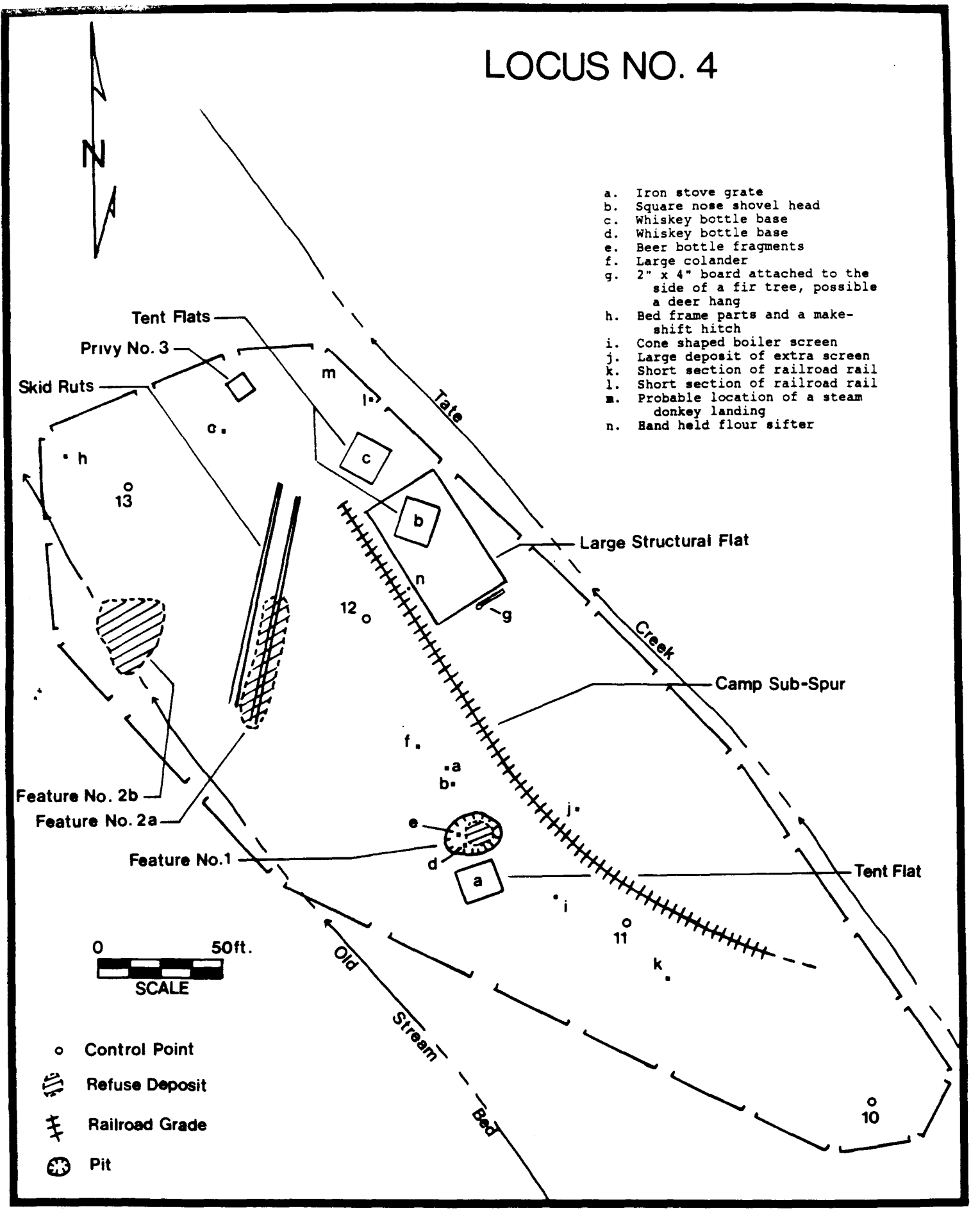
Total:
Group A, Kitchen: 1052 est.
Group B, Personal: 0
Group C, Architectural: 4
Group D, Industrial: 0

** estimated

Fig. No. 7. L3/Feature No. 1. A portion of the refuse deposit within Locus No. 3. Note smashed garbage can. (Roll 88-66/ Frame 6)

Locus No. 4

Locus No. 4 was the most complex locus defined at the Tate Creek Logging Camp (Map No. 7). Two 12′ x 14′ residential tent flats were identified (a and c) as well as a collapsed privy, two small refuse deposits adjacent to one another (designated as a single feature), and a large flat (L4/Flat b). Also noted within this locus was a pit feature (L4/Feature 1), several logging skid ruts and a portion of a short railroad grade sub-spur. The tent flats exhibited far less associated artifacts than the flats investigated in Locus No. 1 and 2. The majority of these materials were primarily personal in nature. Flat b was a larger (55′ x 25′) artificial flat located adjacent to the railroad sub-spur. Many artifacts were observed throughout the entire locus. They included iron (cooking) stove parts, a screened cone shaped spark arrestor for a steam donkey boiler, additional heavy duty screen, various boards, small sections of railroad rail, numerous decayed boards, a few scattered ceramic plate fragments, and various bottle glass fragments.



Map No. 7. Locus No. 4. Tate Creek Logging Camp, F.S. 05-14-61-315.

Locus No. 4 is located on a bench between the current drainage of Tate Creek (east of the locus) and an older channel (west of the locus). It is not known how long ago the creek may have altered its course. A hydrologist was not available to field inspect the drainages but it appeared that Tate Creek had been more or less following its current path for some time prior to the establishment of the camp. This is assumed, in part, due to the amount and estimated age of the foliage noted within the old drainage, and the amount and severity of the undercut along the eastern bank of the current drainage.

It is believed that Locus No. 4 represents the central portion of the camp. This is based upon several observations, including artifact type frequencies, the presence of a sub-spur grade, and the general geographical location relative to other camp features. This area is most likely where the cookhouse and dining facility were located. It exhibits many kitchen related artifacts including numerous food related cans, the remains of barrels, iron cookstove fragments and many smaller kitchen related artifacts. It also appears to be the most convenient location for larger structures, being comparatively flat and open. Flat b, as described below, was the only larger flat recognized within the site. It is located immediately adjacent to, and at the terminus of, the small railroad sub-spur. After the investigation of this flat was underway, a 12' x 14' tent floor was located within it. This tent floor may represent a terminal period of occupation after a more substantial structure had been removed. Indeed, it may not have been a residence at all, but rather a small, very temporary cooking and/or dining facility. This possibility will be discussed in greater detail in Chapter 5.

L4/Flat a: This tent flat is one of only three tent flats identified west of Tate Creek. It was located within a thick stand of trees adjacent to L4/Feature 1, as described below. It was shored up on the western end with circular river-washed stone. The tent floor had decayed in place, and the scant remains of the floor boards and joists were visible after clearing. The remains of three sideboards, two along the side and one in the rear, were noted. A fallen tree covered the northeastern corner of the flat and this portion was not exposed. Few artifacts were noted within this flat. No other tent flats were located nearby. The area just west of this flat exhibited a somewhat disturbed and uneven ground surface but was obscured by thick brush.

Artifacts noted:	Code	Qty.
1. smashed tin can	A1a	1
2. upright pocket tobacco tin	B1a	1
3. medicine bottle	B3a	1
4. medicine bottle	B3a	1
5. decayed boot	B4c	1
6. railroad spike	D2b	1

Total:
Group A, Kitchen: 1
Group B, Personal: 4
Group C, Architectural: 0
Group D, Industrial: 1

L4/Flat b: This large flat measured 50' by 25'. The surface, even prior to clearing, exhibited a great deal of cultural material. It was initially believed that this flat might have been constructed to facilitate the placement of a large building, possibly the cookhouse and/or dining facility. The flat was constructed immediately adjacent to and east of the end of the railroad sub-spur. It seems logical that the cookhouse would be located adjacent to the camp sub-spur for ease in off-loading supplies. Archaeological evidence appears to support the conclusion that this was the location of the cookhouse and dining facility. Statistically, the number of kitchen related artifacts is much higher than what was commonly encountered within the tent flats (see Table No. 4). Only after extensive clearing of the entire flat was a 12 x 14' tent floor recognized within the larger flat. No direct evidence for any kind of larger structure was observed except for the actual size of the artificial flat. The remains of up to seven barrels of at least two different sizes were identified on this flat (Fig. No. 8). Cans noted included the typical type A and E evaporated milk cans along with many type B food container cans common within the kitchen refuse deposit in Locus No. 3 (see Chapter 4, Tin Can Analysis). Of the 27 tin cans noted within the flat, only five upright pocket tobacco tins and one "Dri-Foot" tin can were not related to food. Also noted on the northwestern edge of the flat was a flaked obsidian nodule (core) and an obsidian flake. These two artifacts, along with one other flaked obsidian nodule located nearby in Locus 4, represent the only possible prehistoric materials noted at the Tate Creek Logging Camp. The absence of additional prehistoric material suggests that they were brought in during historic camp occupation.

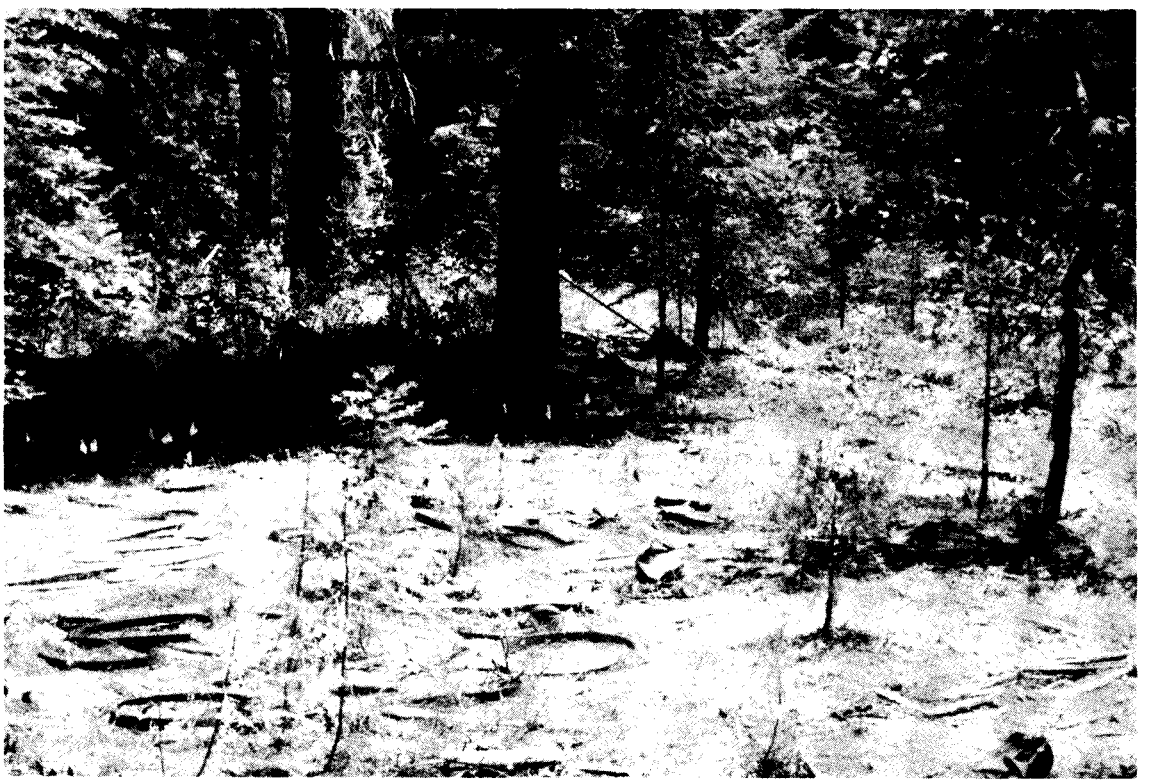


Fig. No. 8. L4/Flat b. Scattered barrel parts and tin cans observed after partially clearing the large flat. View faces south and the camp sub-spur is located to the right of the flat. (Roll 89-65/Frame 17)

On the southern end of the large flat a fir tree was noted with a 2" x 4" board attached. The board was located approximately 15' feet up and extended northeast toward Tate Creek. The board was approximately 6' long. The bark has grown over the board where it connected to the tree but the nails and wire that attached it to the tree were still visible. Wire around the end of the board was also evident. It is possible that this served as a meat hang but it appeared to be somewhat fragile for this purpose. Faunal evidence observed in other areas of the site suggest that beef was being supplied in large portions or sides (see Chapter 4). A meat hang may have been used to process deer meat as well. Just to the west of this tree was a small stack of firewood and, by the firewood, was a section of 1/2" water pipe.

Artifacts noted:		Code	Qty.
1.	tin cans	A1a	21
2.	jelly jar fragments, 5 ea.	A1b	1
3.	jelly jar fragments, 2 ea.	A1b	2
4.	condiment bottle fragment	A1c	1
5.	barrel parts and hoops	A1e	5**
6.	enamelware coffee pot lid	A2a	1
7.	iron stove bracket	A2d	1
8.	dinner knife	A3a	1
9.	bone	A4a	1
10.	upright pocket tobacco tins	B1a	5
11.	snuff can lid	B1c	1
12.	medicine bottle	B3a	1
13.	small tin can, "DRI-FOOT"	B3e	1
14.	brass overall button	B3a	1
15.	sole of a shoe	B4c	1
16.	small grommet	B4e	1
17.	small steel washer	C1e	1
18.	clasp with canvas fragment attached	C1h	1
19.	steel wire fragments, 6 ea.	C1g	1
20.	thin steel stove leg	C3a	1
21.	garbage can lids	C3e	2
22.	broom wire	C3e	1
23.	lantern glass fragment	C3d	1
24.	clevis	D4g	1
25.	metal ring	E1	
26.	short tin strap	E1	
27.	thin wire with numerous brads	E1	
28.	25 small clear bottle glass fragments	E5	
29.	paper (newspaper ?)	E7	
30.	large flaked obsidian nodule	-	
31.	obsidian flake	-	

Total:
Group A, Kitchen: 34
Group B, Personal: 11
Group C, Architectural: 8
Group D, Industrial: 1

** Estimated number of barrels

L4/Flat c: This flat was somewhat unique in that apparently little or no excavation was needed to create a level surface. The flat was recognized because of the visible remains of the tent floor. The flat was placed just northwest of the large flat (L4/Flat b). Because of the lack of thick vegetation, it may be that this area was somewhat dryer than other tent flats. Many of the floor boards were still visible even before clearing the flat. There was less duff to be cleared than average for the previous tent flats. The side boards were missing on three

sides. The remaining side board was located on the east side facing Tate Creek in an extremely decayed condition. The preservation of the floorboards on this flat was slightly better than most on the site except for L1/F2/Flat a, where the floor boards had been displaced. Even so, no complete floor boards were observed and the dimensions of the tongue and groove remained approximate (1/2" x 4"). This flat measured 12' x 14'.

Artifacts noted:	Code	Qty.
1. drinking glass fragment	A3g	1
2. upright pocket tobacco tin	B1a	1
3. snuff can lid	B1c	1
4. medicine bottle	B3a	1
5. comb fragment	B3b	1
6. rubber overshoe sole	B4c	1
7. fragments of galvanized steel wire, 3 ea.	C1g	1
8. chemical bottle	D4a	1
9. small tin star	E1	
10. aluminum top to squeeze tube	E1	
11. small galvanized flat steel strips, 2 ea.	E1	
12. small fragment of flat metal	E1	
13. thin fragments of glass, 3 ea.	E5	
14. small bottle glass fragment	E5	

Total:
Group A, Kitchen: 1
Group B, Personal: 5
Group C, Architectural: 1
Group D, Industrial: 1

Tent Flat	Kitchen Group (A)	Personal Group (B)	Architectural Group (C)	Industrial Group (D)	Total
Flat a	1	4	1	1	7
Flat c	1	5	0	1	7
Total	2 (14%)	9 (64%)	1 (7%)	2 (14%)	14
Flat b	34 (63%)	11 (20%)	8 (15%)	1 (2%)	54

Table No. 4. Artifact group frequencies and relative percentages of artifacts recovered within the three structural flats investigated within Locus No. 4. Flats a and c are standard 12' x 14' tent flats while flat b is a larger (25' x 45') flat believed to have been the cookhouse and/or dining facility location.

L4/Feature 1: This feature consisted of a large dual level pit (Fig. No. 9). A tent flat was located nearby the feature but it is not believed to be directly associated with it. It is believed that the feature may have functioned as a root cellar. Prior to clearing vegetation, the bottom of the western half measured 1' 6" below the ground surface while the bottom of the eastern half was measured 3' below the ground surface. The top dimensions of the pit measured 16' east to west by 7' north to south. Adjacent to the pit to the southeast is a large deposit of soil and river washed rock where the backfill was deposited. The pit and the backfill were cleared of duff to determine whether or not the feature was part of a structure. After removing the duff it was clear that the soil deposit was merely backfill from the original excavation of the pit. The western and shallower portion of the pit was cleared and vegetation removed. Here it was noted that there was a deposit of decaying wood with numerous 10 and 16 penny nails in place. The wood was slumped down and mirrored the shape of the pit surface. The lumber was estimated to be 6" in width and probably 1 1/2 to 2" thick. It had apparently been laid over the top of the western half of the pit. This wood, as with much of the wood comprising

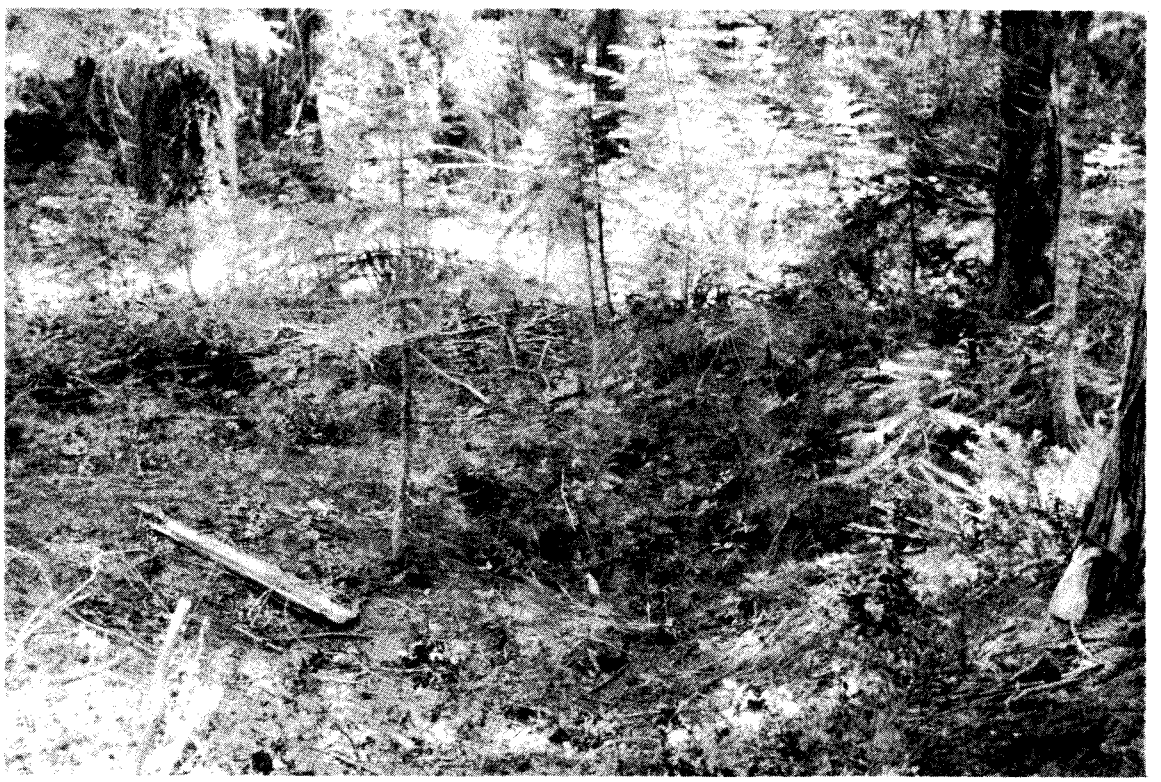


Fig. No. 9. L4/Feature No. 1. Pit feature prior to clearing. (Roll 89-64/Frame 17)

the tent floors, was in an extremely decayed condition and had been thoroughly absorbed into the soil. Therefore, precise measurements were not possible. The generally large size of the nails also suggested the use of larger boards than in the standard tent floors. Several artifacts were noted on top of this portion of the feature including a broken 12 oz. beer bottle, the top of an aqua whiskey bottle and a small shell button. The beer bottle was a twelve ounce capacity and appears to be of more recent origin.

Next, the deeper eastern half of the pit was cleared. Several barrel hoops, a few tin cans and a large piece of corrugated tin were noted partially buried at the bottom of the eastern pit. Once cleared of duff, the depth of the eastern half of the pit was measured to a depth 3′ 6". It was decided to excavate the eastern portion of the pit to a greater depth in order to determine the nature of the deposit, since it was thought that there might be structural remains collapsed into the pit. Excavation was accomplished with shovels, trowels and whisk brooms. Instead of any structural remains, numerous tin cans and other refuse was encountered. From the bottom of the cleared pit, this deposit of tin cans was excavated 1′ 2" in depth where the remainder of the corrugated steel was encountered. It was the same piece that had been initially observed extending down into the pit. At this depth it was bent flat across the pit. The steel sheet was removed to expose additional refuse. Under the metal were numerous tin cans along with small fragments of decaying cardboard, canvas, and a small portion of what may have been tablecloth. The cardboard, canvas and cloth were represented by small fragments in an extremely decayed condition. None of this material was collected. The deposit was excavated another 1′ to sterile soil. The total depth of the refuse deposit from the bottom of the pit was 2′ 2".

The entire deposit consisted primarily of an unusual and distinct assortment of tin cans. Many of the tins were of a small serving size variety and several once contained specialty or imported foods, including French mushrooms, Italian pasta, and canned butter, the latter with a label written in Spanish. This was the only deposit at the site where coffee cans were identified. Of the four coffee cans recovered, three were small one pound capacity cans. It was common in logging camps for food items consumed in great quantities like flour, potatoes, beans, and coffee, to be transported in bulk containers like barrels and sacks (Conlin 1979:168). The presence of specialty foods and small, personal- size containers suggests an occupation by a few individuals. This possibility will be discussed further in Chapter 5.

A total of 66 cans, 62 of which were kitchen related, were recovered and inventoried. Other kitchen related materials included a rectangular shaped enamelware bowl, a tin plate, a butter knife, a broken drinking glass and a baking powder can lid. Industrially related artifacts included a broken falling

saw blade and a length of chain. The only personal items noted in the feature were four upright pocket tobacco tins, and a neck fragment of a ceramic chinese rice wine container. While much of this deposit was unique, some objects were common with others noted at the site. Along with several of the tin can types, the dinner knife and the drinking glass were stylistically identical to others recovered at Tate Creek. Several small rib bones and an intact vertebral column were recovered. The bones were subsequently identified as deer bones (Perry Haskin 1989: personal communication). It has been determined that these elements most likely represent a single deer kill. Soil color and consistency was a dark brown sandy textured loam and was constant throughout the deposit.

Artifacts noted:	Code	Qty.
1. tin cans	A1a	62
2. baking powder lid	A1a	1
3. dinner knife	A4b	1
4. ceramic plate, 1 fragment	A3b	1
5. tin plate	A3e	1
6. enamelware bowl	A3f	1
7. drinking glass, 3 fragments	A3g	1
8. 13 deer bones	A4b	1
9. upright tobacco tins	B1a	4
10. whiskey bottle, 2 fragments	B2a	1
11. chinese rice wine container, 1 fragment	B2a	1
12. beer bottle, 3 fragments	B2b	1
13. medicine bottle	B3a	1
14. shell button	B2a	1
15. section of a saw blade	D1a	1
16. length of chain	D4g	1

Totals:
Group A, Kitchen: 69
Group B, Personal: 9
Group C, Architectural: 0
Group D, Industrial: 2

L4/Feature 2: This feature was actually two small refuse deposits located adjacent to one another and separated by a distance of 40'. Scattered tin cans were located between the two deposits. The first deposit (Feature 2a) consisted almost entirely of tin cans. This material had been deposited in an old logging skid depression. The remains of one medicine bottle, five fragments of lantern glass and three circular loops of wire were noted during the inventory. A total of 18 upright hinged lid tobacco tins were noted as well. This was the greatest number of tobacco tins found in any of the concentrated refuse deposits. Two long, butchered bovine rib bones were found suggesting the importation of beef in the bulk form of sides. All other artifacts consisted of 62 kitchen related tin cans. The cans were relatively intact and all were counted.

The second deposit (Feature 2b) consisted of a majority of tin cans as well as some ceramic plate and cup fragments. This deposit was on a steep bank of the old creek drainage in the western portion of Locus 4. There was some standing water and thick vegetation in the drainage, and the area was generally wetter than other areas, which most likely contributed to the greater than average amount of decay evident in this deposit. A total of 145 cans were inventoried. This was the only deposit where all cans could not be identified to type. Tin cans that were too fragmented and could not be reliably identified were not counted. It is estimated that these fragments amounted to approximately 50 additional cans. The deposit was not large in area but did exhibit a sub-surface deposit. The deposit did not extend below a depth of 1' and some excavation was required. Those tins located within the sub-surface portion of the deposit exhibited the greatest amount of decay. Although all cans could not be counted, it is felt that the inventory is representative of the entire deposit.

From the several fragments of ceramic dinner plates and cups noted, it is estimated that five standard size plates and two coffee cups were represented within the deposit. All were common undecorated white glazed dishes and cups. Five fragments of thick yellow glazed pottery were also noted, probably from a large mixing bowl. Also located in this deposit were 12 small, thin fragments of glass, possibly lantern glass, and a single small, complete medicine bottle. Both deposits were excavated by shovel and trowel.

Artifacts noted, L4/Feature 2a:	Code	Qty.
1. various tin cans	A1a	62
2. baking powder lid	A1a	1
3. beef rib bones	A4a	1
4. upright pocket tobacco tins	B1a	18
5. medicine bottle fragment	B3a	1
6. lamp glass fragments, 3 ea.	C3d	1
7. 3 small fragments of lamp glass	C3d	1

Total:

Group A, Kitchen:	64
Group B, Personal:	19
Group C, Architectural:	1
Group D, Industrial:	0

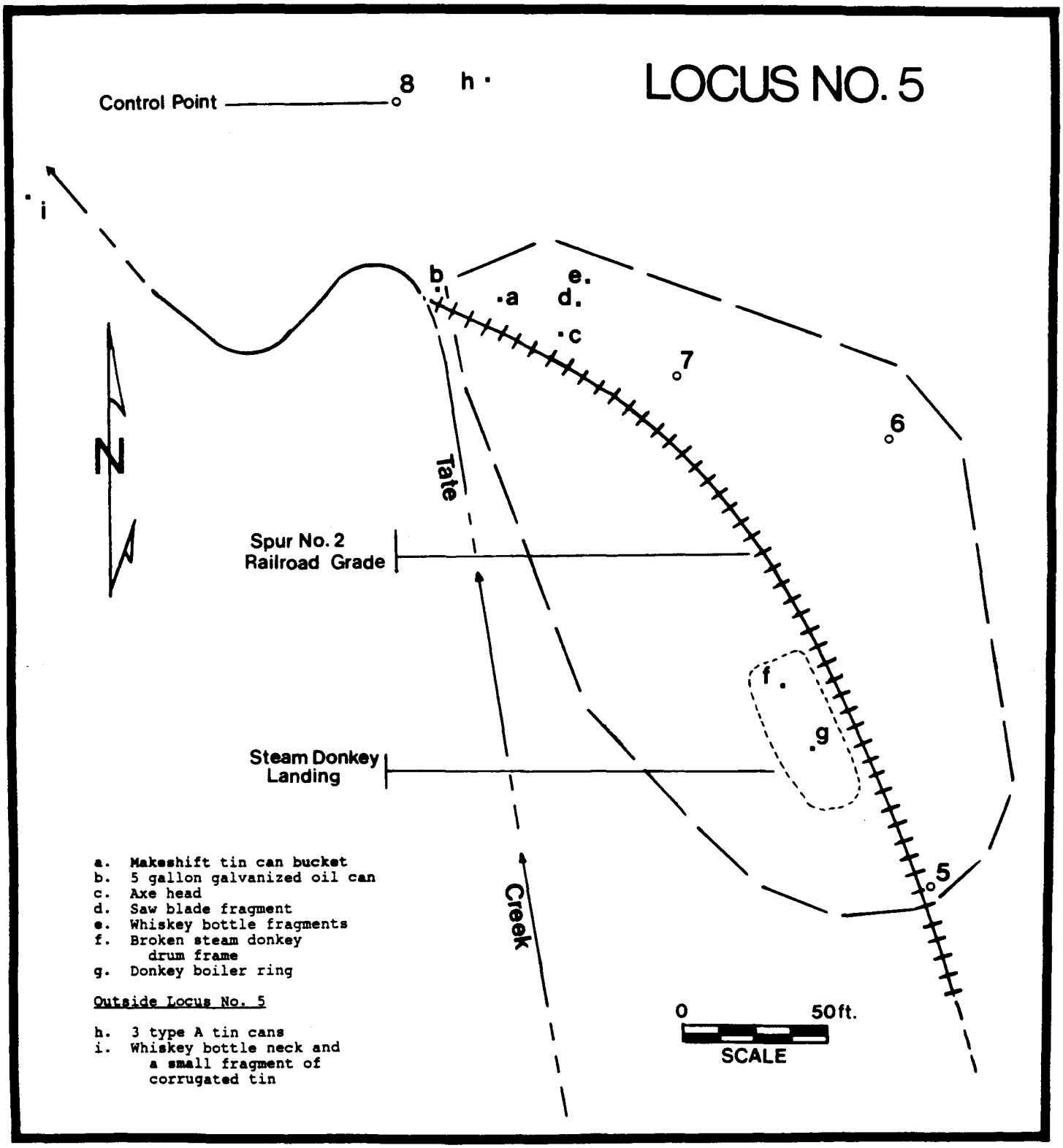
Artifacts noted, L4/Feature 2b:	Code	Qty.
1. tin cans	A1a	142
2. yellow glazed bowl fragments, 8 ea.	A2a	5
3. ceramic plate fragments, 22 ea.	A3b	2
4. ceramic cup fragments, 8 ea.	A3c	1
5. upright pocket tobacco tins	B1a	3
6. medicine bottle	B3a	1
7. small fragments of lamp glass, 12 ea.	C3d	1
8. large rectangular tin, modified for 2nd use	*	

Total:
Group A, Kitchen: 150
Group B, Personal: 4
Group C, Architectural: 1
Group D, Industrial: 0

L4/Privy (Privy No. 3): This privy was identified near a large fir tree under heavy duff. Only a few boards and a small depression in the ground surface were visible prior to clearing the feature. One complete 1/2" x 9" board, 8' long, was noted with one end cut at about an 80° angle. This type of board matched those noted on the standing privy near Locus 1. After the duff was cleared it became apparent that portions of the structure were missing. A depression, 1' deep, was observed within the feature and was assumed to be a privy hole. Only one wall, the western side wall which had fallen to the outside, was present. The floor, roof and other walls were missing suggesting that most of the structure had been salvaged for reuse. It was decided to excavate the hole in order to confirm the identification of the structure as a privy, test the depth of the deposit, and possibly recover unique artifacts. No artifacts were noted except one fragment of a tin top to a fiber can. It is an internal friction lid embossed enough to be identified as part of a "Chlorinated Lime" can lid identical to another complete lid located during the surface collection in Locus 4. The nature of the deposit confirmed that the feature was a shallow privy. The mulch like deposit extended 3' in depth where the soil abruptly turned to stream washed sand.

LOCUS 5

Locus No. 5 is located south of the other loci along a remaining portion of the railroad grade (Map No. 8). It does not appear to actually be part of the camp. This locus was identified as the location of at least one steam donkey landing. The locus exhibited steam donkey parts (Fig. No. 10) and sparsely scattered artifacts. Very little evidence of any camp type activity (social, food preparation, etc.) was evident. The majority of artifacts noted would be classified within the



Map No. 8. Locus No. 5. Tate Creek Logging Camp, F.S. 05-14-61-315.

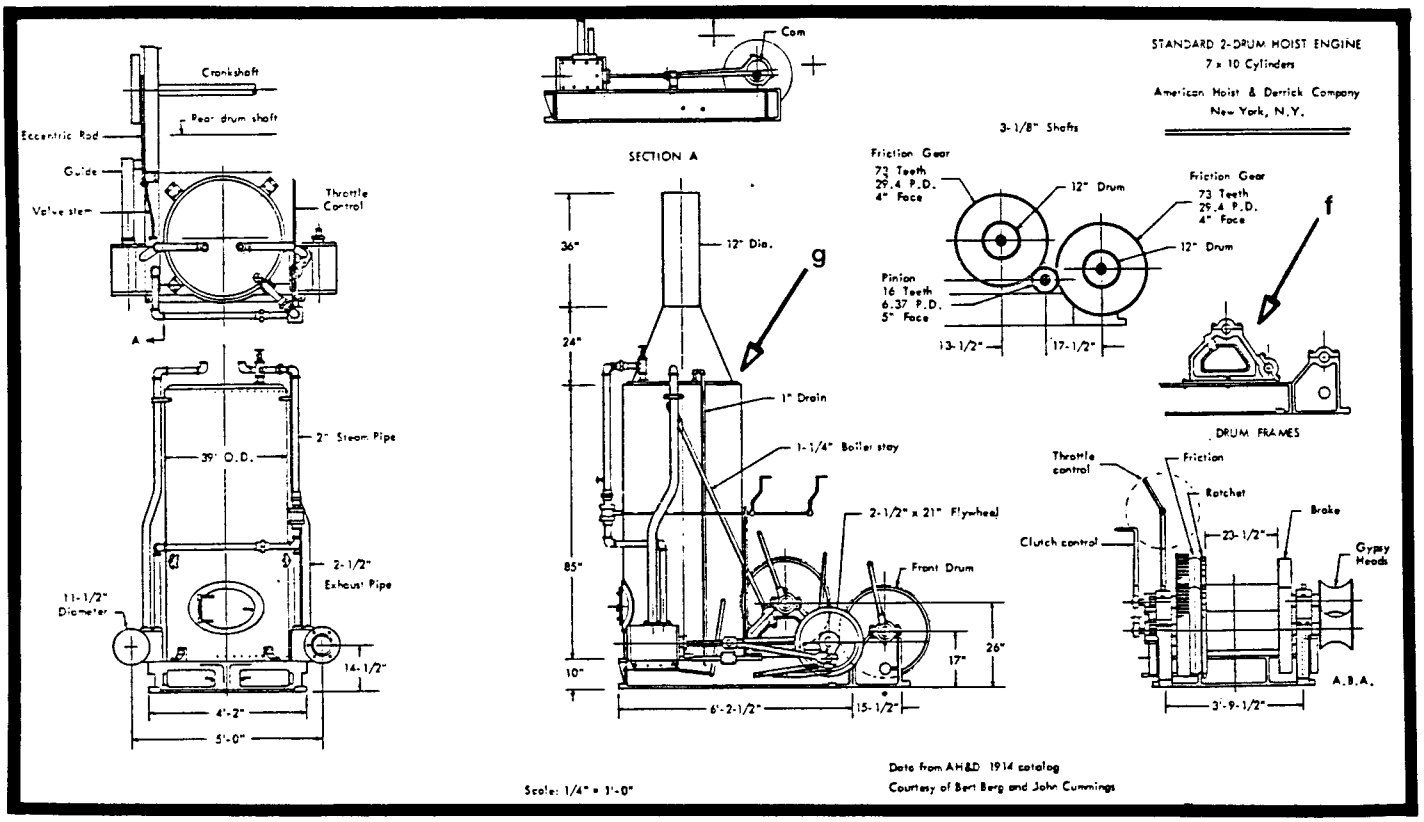


Fig. No. 10. Schematic showing a typical steam donkey engine common in logging operations during the first quarter of the 20th century. Arrows point to the parts (f and g) noted in Locus No. 5 (see Map No. 8 for location). A. Armitage 1968, Kemtron Corporation.

Industrial Group (Group D). This included a large lubricant can, a double edged axe head, and a bucking saw fragment, as well as several parts belonging to a steam donkey. Among these parts were a broken drum frame and a boiler attachment (Bruce Petty 1989: personal communication). A few tin cans and some isolated glass fragments that belonged to a whiskey bottle were also noted in this area.

The portion of the railroad grade extending through Locus 5 represents the only preserved section of Spur 2 in the vicinity of the Tate Creek site. The grade consists of an obvious cut which emerges upstream from the main portion of the camp out of an "S" curve in the stream. From this point the grade takes a gradual curve to the south where it eventually branches off by switchback to climb up the ridges on both sides of the camp (Map No. 2). The grade shows signs of high flood waters that have repeatedly flowed through it.

Fig. No. 11. Privy No. 1. The standing privy, facing north. (Roll 89-67/Frame 4)

Located Outside of the Five Loci

Privy No. 1: This privy was the only standing structure remaining at Tate Creek (Fig. No. 11, Site Map No. 3). The privy has slumped somewhat into the ground and the original height of the structure could only be estimated at around 6 to 7′. The privy measures 4′ 6" long by 6′ 6" wide. It had a roof which sloped down toward the rear of the structure which is missing. The privy opened to the southwest. The doorway measured 2′ 1" wide by approximately 4′ in height. The exterior board siding measured 1 1/2" thick by 7 to 12 1/2" wide. The length of these boards was variable between 5′ to 6′ high. The privy was not further investigated due to the fact that there was evidence that the privy hole had been previously dug out.

Privy No. 2: This privy was located above and east of Locus No. 1 (Site Map No. 3). The privy had collapsed long ago and was very decayed. Its identification as a privy was considered to be somewhat tentative. Identification was based on its location; well removed from camp, and the similarity of the board dimensions and angle of cut to those observed at the standing privy (Privy No. 1). This structure was not investigated.

Other Artifacts: Three whiskey bottle fragments, a small section of corrugated sheet metal and a couple of 2' x 4' board fragments were noted just west of Tate Creek between Locus No. 4 and Locus No. 5. Three type A tin cans were also noted north of Locus No. 5 (Map No. 8).

CHAPTER 4

ARTIFACT ANALYSIS

This chapter will examine the artifacts recovered during fieldwork at the Tate Creek Logging Camp. The artifacts noted, collected, and analyzed from the Tate Creek Site have been divided into four basic functional categories (Table No. 1, Chapter 3). These categories have been further subdivided into related sub-categories. As introduced in Chapter 3, the primary categories are:

A.) the Kitchen Group, which includes all food related items such as food containers, food additive containers, tablewares, kitchen equipment and bone;

B.) the Personal Group, which includes all health and cosmetic related items as well as indulgences such as liquor and smoking related items. Also included within this broad category are personal possessions, firearms, and clothing;

C.) the Architectural Group, which includes all construction hardware, structural remains, and housewares. The housewares sub-category includes any furniture related items, clocks, lamps, brooms and other common household items;

D.) the Industrial Group, which includes those artifacts related to any industry. In this case, the major industries represented at Tate Creek are historic logging operations and the railroad associated with it. Also included in the Industrial Group are blacksmiths tools and tack.

This chapter will be organized in conjunction with this system beginning with the analysis of the various food container tin cans recovered from the four refuse deposits.

When using a functional classification system there are always objects which are difficult or impossible to classify. This is either because the original function of the artifact is ambiguous (e.g. a small fragment of rusted flat tin) or because an object has been utilized for more than a single function (e.g. a large evaporated milk can modified for use as a bucket).

A. KITCHEN GROUP

1. FOOD CONTAINERS

a. Tin Cans: Numerous tin cans were identified at the Tate Creek Logging Camp (Table No. 5). At least one can from every type noted on the site (37 types) was collected and analyzed. These cans were examined utilizing an inventory system developed primarily from the form previously used by Vaughan (1985b) for can analysis at the Chippy Spur and the TramRail sites. Much of the descriptive language is taken from the tin can inventory form developed by Jim Rock (1988:135). The present inventory includes dimensions, diagnostic features, the method of opening used, and the quantity of a given can type within a deposit. The inventory system presented here uses the same sequential lettering system that Vaughan used to identify various can types. Those tins which were identical to those located within Vaughan's two McCloud River Lumber Company sites were assigned the same letter designation. Those which were unique within the Tate Creek site were sequentially lettered beyond Vaughan's last letter designation (type AE). Those letters missing from this inventory represent cans that were identified by Vaughan but not located within the Tate Creek site. The reuse of this inventory system allows for a direct comparative analysis of tin can types and frequencies between the Tate Creek Logging Camp and the two sites investigated by Vaughan.

Tate Creek had a total of 1,316 cans inventoried within four distinct refuse deposits. Of these, 1,291 were firmly identified as food related containers. Many additional cans were noted within the site boundaries; however, due to the scattered nature of these tin cans, time constraints, and the perceived redundancy of such data, these cans were not systematically inventoried. Only one can was located within the site that did not match any cans noted within the four refuse deposits at least once. This was a large vegetable can similar to type B but with a solder hole-in-top and stamped end. A total of 37 different food container can types were identified at the Tate Creek Logging Camp. A total 12 can types match with those types identified at the Chippy Spur and TramRail sites. This leaves a total of 25 different can types that were unique to the Tate Creek site.

The most common tin can identified within the four deposits was can type B (Fig. No. 12). A total of 590 of these cans were counted and amounted to 46% of the total inventory from all four deposits. Many other type B cans were noted scattered throughout different areas of the site. Although the precise contents of these tin cans is not known, all have been opened by either being cut around the rim with a twist type can opener, punched though with a knife around the rim with the lid being pried up, or punched with a knife in an x cut and the corners lifted; all to allow the extraction of a solid product (Fig. No. 13). Due to

Type	Qty.	Diameter	Length X Width	Height	End Seam	Side Seam	Filling Method	Opening Method
A	93	6		8 3/4	Stamped	Crimped	Match Stick	Small Punch Holes
B	590	6 1/8		7	Crimped	Crimped	Entire End	Twist Opener
D	2	2 1/2		2 1/2	Stamped	Crimped	Match Stick	Small Punch Holes
E	364	3		4 3/8	Stamped	Crimped	Match Stick	Small Punch Holes
H	46		6 1/2X4 1/2	1 1/2	Crimped	None	Entire End	Twist Opener
I	45	3 3/8		4 9/16	Crimped	Crimped	Entire End	Twist Opener
J	5	3		4 5/8	Crimped	Crimped	Entire End	Cut Around and Lift
K	5	2 7/8		3 1116	Crimped	Crimped	Hole-in-Top	Cut Around and Lift
L	3	3 3/8		3 7/8	Crimped	Lap and Solder	Entire End	X Cut and Lift
Q	12	4		4 3/4	Crimped	Crimped	Entire End	Twist Opener
R 1	3		4 1/2X3 3/8	3/4	Crimped	None	Entire End	Key Opened
R 2	20		4 3/4X3	3/4	Crimped w/Solder	Crimped w/Solder	Entire End	Key Opened
R 3	2		4 1/4X3	7/8	Crimped	None	Entire End	Key Opened
AB	1		5 5/8X4 3/8	10*	Crimped	Crimped	Through Spout Hole	Existing Spout
AD	4		3 1/2X3 1/2	6	Crimped	Crimped	Screw Cap	Screw Cap
AF	46	3 1/4		4 1/2	Crimped	Lap and Solder	Entire End	Cut Around and Lift
AG	1		8 1/2X8 1/2	12	Crimped	Crimped	Through Spout Hole	Existing Spout
AH	1	3 1/4		4 1/2	Crimped	Crimped	Entire End	Cut Around and Lift
AI	1		10 X 10	14 1/2*	Crimped	Crimped	Through Spout Hole	Existing Spout
AJ	8	2 11/16		4	Crimped	Lap and Solder	Entire End	Twist Opener
AK	2	2 1/2		2 1/2	Crimped	Crimped	Entire End	Key Opened
AL	13	3 3/8		4 1/2	Stamped	Crimped	Hole-in-Cap	Cut Around and Lift
AM	1		3 9/16X2	5	Crimped	Crimped	Entire End	Cut Around and Lift
AN	1	4 1/2		8 1/2	Crimped	Crimped	External Fric. Lid	External Fric. Lid
AO	1	2 1/4		3 1/4	Crimped	Lap and Solder	Entire End	Cut Around and Lift
AP	1	1 1/2		3 1/4	Crimped	Crimped	Entire End	Twist Opener
AQ	3	4		5	Crimped	Crimped	Entire End	Twist Opener
AR	1	3		4 1/8	Crimped	Crimped	Entire End	Cut Around and Lift
AS	3		3 X 2	2 1/2	Crimped	Crimped	Hole-in-Top	Key Opened
AT	2	4		1 1/4	Crimped	Crimped	Entire End	Key Opened
AU	1	6 3/8		8	Crimped	Crimped	Entire End	Key Opened
AV	1	3		4 7/8	Crimped	Crimped	Entire End	External Fric. Lid
AW	1	2 3/4		3 1/4	Crimped	Crimped	Entire End	Twist Opener
AX	1	4 1/4		4 7/8	Crimped	Crimped	Entire End	Twist Opener
AY	2	4		2 11/16	Crimped	Crimped	Entire End	Twist Opener
AZ	4	3		4 3/8	Crimped	Crimped	Entire End	X Cut and Lift
BA	1	3 1/4		3 5/8	Crimped	Lap and Solder	Entire End	Twist Opener

1291 TOTAL TIN CANS

Table No. 5. F.S. 05-14-61-315, total tin can inventory from all four refuse deposits. L3/Feature 1, L4/Feature 1, L4/Feature 2a and L4/Feature 2b.

their large size and common occurrence it is believed that the these tin cans most likely held various canned vegetables and other dietary staples like pork and beans. These cans were very common in deposits L3/Feature 1 (489 each for 48% of the total inventory), L4/Feature 2a (33 each for 53%), and L4/Feature 2b (65 each for 46%). Only three type B tin cans, out of a total of 62, were identified within the refuse at L4/Feature 1.

Matchstick filler evaporated milk cans (type A, D and E) were also very common can types at Tate Creek (Fig. No. 12). Three different can sizes were identified: 1) type D, a small 2 1/2" diameter by 2 1/2" high can, 2) type E, a standard 3" diameter by 4 3/8" high can and 3) type A, a large 6" diameter by 8 3/4" high can. There were 93 type A cans, 364 type E, and 2 type D cans inventoried within all four deposits. As with the type B cans, type A was rare within L4/Feature 1, with only one can located. Type A appears to be a one gallon capacity can. Type E is the standard size common evaporated milk can while the type "D" is a small squat example of the same type of can. Most of these tins have been opened by punching a small hole on either side of the top to allow liquid to pour while air enters through the opposite hole (Fig. No. 13). Many of these cans were opened by one or two large jabs with a knife. Although the evaporated milk industry had been developing steadily since the late 1800s, the vent hole type cans or matchstick filler cans became increasingly common during the early 1900s with rising consumer demand (Rock 1988:52-54).

ANALYSIS OF THE FOUR REFUSE DEPOSITS:

Because these deposits were distinctive and because they were located in different areas of the camp, it is possible that they may reflect different occupational periods within the camp. Therefore, each deposit will be discussed separately below.

L3/Feature 1: This refuse deposit was the largest single concentration of tin cans within the site totalling 1,024 cans. This deposit represented 79% of all the tin cans inventoried within all four deposits. The overall preservation of the cans was relatively good and all cans noted were inventoried. Of the tin cans within this deposit, with the exception of two tins, all could be reliably associated with food preparation. The two exceptions were identical squat rectangular tins. These two were later identified as lunch box tins or grub boxes (Pulati 1973:171). Of the tin cans inventoried, 94% were of the same types as those found within the Chippy Spur and TramRail sites.

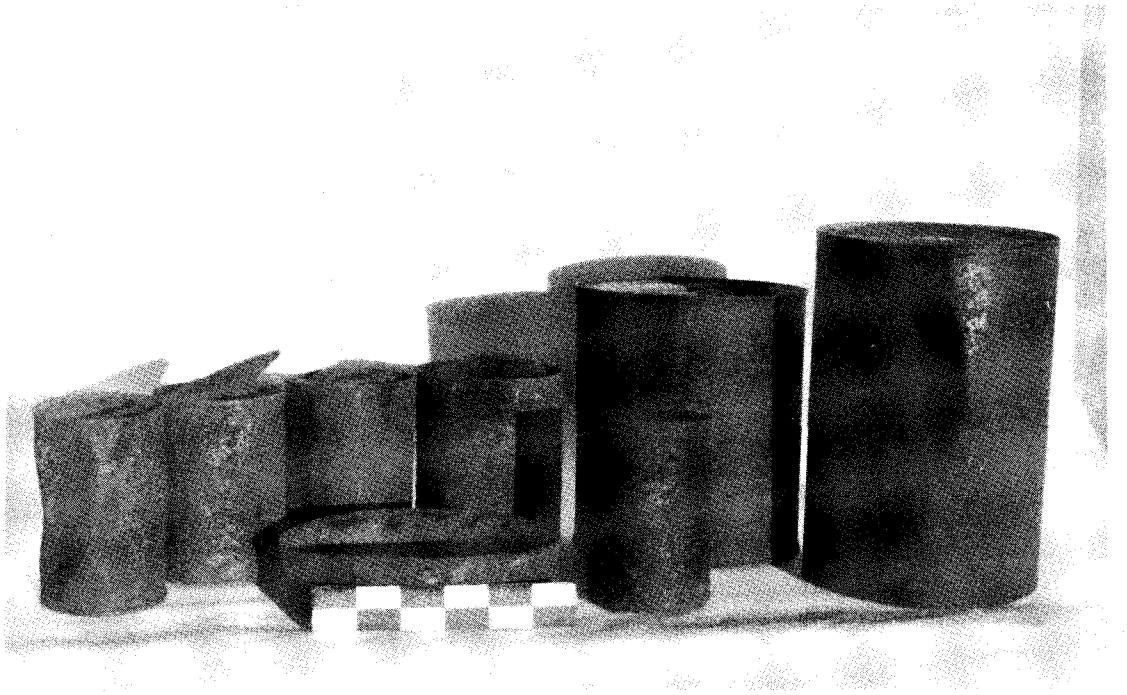


Fig. No. 12. The most common food container cans within various refuse deposits. L to R, back row: type J, I, AL, AF, B and A. L to R, front row: type H and E.

Fig. No. 13. Various methods of opening food container cans. L to R: type A, stabbed twice with a large knife; type B, exhibiting an "X" cut and lift opening method; type B, opened with a twist type can opener; type B, stabbed around edges with a knife.

The vast majority (98%) of these cans consisted of only 6 separate types; types A, B, E, H, I and AF (Table No. 6). Types A and E are the previously discussed evaporated milk cans; type B cans are believed to be vegetable cans; type H are large sardine cans; and types I, J, K and AF are standard sanitary type food container cans. The deposit was obviously a kitchen refuse dump. The lack of tobacco tins, liquor bottles, medicine bottles, old shoes and other personal or houseware items indicates that the refuse transported here did not come from the entire camp, but from the kitchen and dining areas exclusively.

Some unique tin cans were noted in this deposit as well. These included numerous standard size "sanitary" type cans that exhibited overlapping (lap) and solder side seams in conjunction with double locking, or crimped, end seams (type AF, and AJ). The lap and solder seam is an early form of tin can technology. The improved double seam technology began to replace the earlier lap side seam and stamped end seam cans around the turn of the century (Rock 1988:4-6). These can types with both earlier and later technologies are a transitional tin can form. A stamped end, solder applied, hole-in-cap top can type with a double locking or crimped side seam was also noted. On the cap was stamped "OYSTERS 10 OZ." All standard size food container tin cans inventoried at Chippy Spur and TramRail were sanitary type exhibiting crimped side seams with the exception of the evaporated milk cans (A, D and E). Several of the tins in L3/Feature 1 with crimped seams had small amounts of machine applied solder along the seam.

Other identifiable can types in this deposit included an oval, one pound capacity sardine can. This can type (type H) matches the style used in the California sardine industry in Monterey (Rock 1988:66). Unlike smaller sardine cans, these were not key opened. These cans exhibited an opening method made by a twist type can opener or they had been cut around with a knife and pried open. Three smaller sardine cans (type R1) were located within this deposit. These did not display any identifying marks and were the standard twist key opening type commonly found in many 20th century refuse deposits. There was some slight design variation between the sardine cans examined between refuse deposits. The sardine cans will be discussed separately at the end of the tin can section.

Two rectangular tin cans with screw tops (type AD) probably represent cocoa or powdered chocolate cans. Another cylindrical can is partially legible and reads "GIRARD PURE SWEET GROUND CHOCOLATE AND COCOA." An external friction lid matching the cans diameter was located nearby. Also noted was one external friction lid stamped "CALUMET BAKERS BAKING POWDER FULL WEIGHT 10 LBS ABSOLUTELY PURE." Calumet baking powder was produced by the

Type	Qty.	Diameter	Length X Width	Height	End Seam	Side Seam	Filling Method	Opening Method
A	40	6		8 3/4	Stamped	Crimped	Match Stick	Small Punch Holes
B	489	6 1/8		7	Crimped	Crimped	Entire End	Twist Opener
E	353	3		4 3/8	Stamped	Crimped	Match Stick	Small Punch Holes
H	44		6 1/2X4 1/2	1 1/2	Crimped	None	Entire End	Twist Opener
I	21	3 3/8		4 9/16	Crimped	Crimped	Entire End	Twist Opener
J	5	3		4 5/8	Crimped	Crimped	Entire End	Cut Around and Lift
K	5	2 7/8		3 11/16	Crimped	Crimped	Hole-in-Cap	Cut Around and Lift
R 1	3		4 1/2X3 3/8	3/4	Crimped	None	Entire End	Key Opened
AD	2		3 1/2X3 1/2	6	Crimped	Crimped	Screw Cap	Screw Cap
AF	44	3 3/8		4 9/16	Crimped	Lap and Solder	Entire End	Punch/Twist w/Knife
AJ	1	2 11/16		4	Crimped	Lap and Solder	Entire End	Cut Around and Lift
AK	2	2 1/2		2 1/2	Crimped	Crimped	Entire End	Key Opened
AL	13	3 3/8		4 1/2	Stamped	Crimped	Hole-in-Cap	Cut Around and Lift
AM	1		3 9/16X2	5	Crimped	Crimped	Entire End	Cut Around and Lift
AN	1	4 1/2		8 1/2	Crimped	Crimped	External Fric. Lid	External Fric. Lid
	1024 TOTAL TIN CANS							

Table No. 6. F.S. 05-14-61-315, L3/Feature 1, Tin Can Inventory.

firm of Chase and Sanborn out of Boston, Massachusetts. They were known primarily for marketing fine coffee but began marketing Calumet brand baking powder in 1901 (Zumwalt 1980:79). The company was sold in 1928 but the Calumet brand name continued to be used. This was the only baking powder tin (top only) noted within this deposit.

L4/Feature 1: A total of 65 tin cans were inventoried from this deposit. With the exception of 4 upright pocket tobacco tins, all tin cans noted within this feature were food or beverage (i.e. coffee) containers (Table No. 7). This deposit was unique within the Tate Creek site and unique as well when compared to Vaughan's inventories at the Chippy Spur and TramRail sites. Of the 21 various can types identified within this deposit, only 8 types were noted elsewhere in the site and only 7

types were noted within Vaughan's inventories. It is believed that this deposit is indicative of short term food preparation for a small group of individuals. The tobacco tins will be discussed within the Personal Group.

The only example of the type D evaporated milk cans at the camp was located within this deposit. Type D cans are very small portions estimated to contain 8 ounces or less. Five standard evaporated milk cans were also noted within this deposit. Only one large, type A, one-gallon evaporated milk can was noted within the deposit. Also rare in this deposit were the otherwise common type B large capacity vegetable cans. Only three were observed. Also noted was a small external friction lid stamped "CALUMET BAKING POWDER 1LB ABSOLUTELY PURE." The same type of lid was noted in L3/Feature 1 but it was from a 10 pound capacity can.

This deposit was the only one to contain coffee cans. Presumably, coffee was delivered to logging camps in sacks as it was certainly consumed in great quantities (Conlin 1979:168). Four small 1 pound MJB coffee cans were noted. The cans had been opened with a key opener that had been attached to the lid. A sample can was collected (Fig. No. 14). The base exhibits a vacuum solder seal. The can matches the design marketed by the M.J. Brandenstein Co. during the 1920s (Rock 1988:42). One larger 4 pound capacity coffee can was noted which was partially legible as "HILLS BROS. RED CAN BRAND." A matching external friction lid was located nearby which was stamped "HILLS BROS" with the walking Arabic figure in the center. The trade mark is located at the top of the can. This trademark and the label "Red Can Brand" date this can between 1914 and 1922 (Pulati 1973:53).

Even more unique within this deposit were the imported or specialty foods represented (Fig. No. 14). Two examples of a squat, circular key opened can were noted (type AT). The top of one of these cans is still legible. It reads as follows: "IL SOLE L EXCELSIOR D_GLI ANTIPASTI." These words are printed around a large figure of a shining sun with a smiling face. Embossed on the top of the can is the name "ITALY." One small tin can (type AO) with crimped end seams and a solder sealed lap side seam has a very unique, applied thin brass label which is embossed: "CONSERVES ALIMENT___ / HERMANT / _DLY - FRANCE / MUSHROOMS / CHOICE / CONTENTS 4 OZ." The label also has a large "H" within a diamond shape to one side. The can has been opened with a knife by punching along the edge of the top and prying the top up. Two squat, circular cans (type AT) were legible enough together to identify the former contents. One side of these cans is printed in English and one side printed in Spanish: "MANTEQUILLA PASEURIZADA / MAYROSE / CALI_AD SUPERIOR / CONTENIDO

Type	Qty.	Diameter	Length X Width	Height	End Seam	Side Seam	Filling Method	Opening Method
A	1	6		8 3/4	Stamped	Crimped	March Stick	Small Punch Holes
B	3	6 1/8		7	Crimped	Crimped	Entire End	Twist Opener
D	2	2 1/2		2 1/2	Stamped	Crimped	March Stick	Small Punch Holes
E	5	3		4 3/8	Stamped	Crimped	March Stick	Small Punch Holes
I	7	3 3/8		4 9/16	Crimped	Crimped	Entire End	Twist Opener
L	2	3 3/8		3 7/8	Crimped	Lap and Solder	Entire End	X Cut and Lift
Q	12	4		4 3/4	Crimped	Crimped	Entire End	Twist Opener
R 3	2		3 1/8X4 1/4	7/8	Crimped	None	Entire End	Key Opened
AJ	6	2 11/16		4	Crimped	Lap and Solder	Entire End	Twist Opener
AO	1	2 1/4		3 1/2	Crimped	Lap and Solder	Entire End	Cut Around and Lift
AP	1	2 1/2		3 1/4	Crimped	Crimped	Entire End	Twist Opener
AQ	3	4		5	Crimped	Crimped	Entire End	Twist Opener
AR	1	3		4 1/8	Crimped	Crimped	Entire End	Cut Around and Lift
AS	3		3 X 2	2 1/2	Crimped	Crimped	Hole-in-Top	Key Opened
AT	2	4		1 1/4	Crimped	Crimped	Entire End	Key Opened
AU	1	6 3/8		8	Crimped	Crimped	Entire End	Key Opened
AV	1	3		4 7/8	Crimped	Crimped	Entire End	External Fric. Lid
AW	1	2 3/4		3 1/4	Crimped	Crimped	Entire End	Twist Opener
AX	1	4 1/4		4 7/8	Crimped	Crimped	Entire End	Twist Opener
AY	2	4		2 11/16	Crimped	Crimped	Entire End	Twist Opener
AZ	4	3		4 3/8	Crimped	Crimped	Entire End	X Cut and Lift
BA	1	3 1/4		3 5/8	Crimped	Lap and Solder	Entire End	Twist Opener
	62 TOTAL TIN CANS							

Table No. 7. F.S. 05-14-61-315, L4/Feature 1, Tin Can Inventory.

NETO 1 LIBRA", and the other side: "ONE POUND NET WEIGHT / MAYROSE / PASTEURIZED EXTRA CREMERY / BUTTER." Also printed on the side of these cans is: "LECHERIA MANCHESTER / WESTERN MEAT COMPANY / PROPIETARIOS / SAN FRANCISCO, CALIFORNIA, U.S.A.". Two pattern or standard key opened sardine cans were noted which match a opening style associated with Norwegian imports (Rock 1988:67). No marks or labels could confirm this. Three unique hole-in-top key opened meat tins (type AS) were recovered that exhibit heavy hand soldering on the closure. These cans originally had paper labels as there were very small decaying portions remaining on the cans. No portion of these paper labels were legible as they were far too small and fragmented. These soldered meat tins may have been South American imports (Rock 1988:63).

Fig. No. 14. Legible food and beverage containers from Locus No. 4, Feature No. 1. L to R: 1 lb. coffee can (MJB); standard size can of corn (Milford Fancy Midwest); small can with a thin brass label identifying former contents as French mushrooms; butter can with label printed in Spanish; and a scored strip key opened lid to an Italian pasta can.

Numerous other standard size serving type food containers were noted within this deposit. Three sanitary type cans collected were legible enough to read the following: "MILFORD / FANCY MIDWEST SWEET CORN" (Fig. No. 14). All other cans exhibited surface rust and were not legible. Most of them probably had paper labels and, therefore, the former contents of these cans remains unknown.

L4/Feature 2a: Although inventoried separately, Feature 2a and 2b are located only 40' apart and are thought to represent a single feature, deposited at about the same time during camp occupation. Feature 2a contained a total of 63 tin cans (excluding 18 upright pocket tobacco tins). The deposit included 11 type A evaporated milk cans and 33 type B vegetable cans

(Table No. 8). Several of the common crimped seam type cans (type I) were stamped "SANITARY" on the base. Only 2 types (type AI and AJ), for a total of 2 cans, were not observed anywhere else on the site. One baking powder can lid is embossed "CRESCENT TRADE MARK BAKERS POWDER." This is embossed along side a large crescent moon. It is from a ten pound capacity can.

Type	Qty.	Diameter	Length X Width	Height	End Seam	Side Seam	Filling Method	Opening Method
A	11	6		8 3/4	Stamped	Crimped	Match Stick	Small Punch Holes
B	33	6 1/8		7	Crimped	Crimped	Entire End	Twist Opener
E	4	3		4 3/8	Stamped	Crimped	Match Stick	Small Punch Holes
H	2	3 3/8		3 7/8	Crimped	Crimped	Entire End	Twist Opener
I	6	3 3/8		4 9/16	Crimped	Crimped	Entire End	Twist Opener
L	2	3 3/8		3 7/8	Crimped	Lap and Solder	Entire End	Cut Around and Lift
R 2	2		4 3/4X3	3/4	Crimped w/Solder	Crimped w/Solder	Entire End	Key Opened
AD	2		3 1/2X3 1/2	6	Crimped	Crimped	Screw Cap	Screw Cap
AI	1		10 X 10	14 1/2*	Crimped	Through Spout Hole	Existing Spout	
AJ	1	2 11/16		4	Crimped	Lap and Solder	Entire End	Cut Around and Lift
	63 TOTAL TIN CANS							

Table No. 8. F.S. 05-14-61-315, L4/Feature 2a, Tin Can Inventory. (*Estimated)

L4/Feature 2b: This deposit is similar to L4/Feature 2a. A total of 142 whole tin cans (not including 3 upright pocket tobacco tins) were inventoried (Table No. 9). Of these, 138 of the cans were identical to cans located in other deposits in the site. Only 3 types (AF, AG and AH), for a total of 4 cans, were unique. Several of the common crimped seam cans (type I) were embossed "SANITARY" on the base. None of the type I cans in the L3/Feature 1 refuse deposit were embossed. One rectangular tin can that is partially legible reads: "___RIMO__ / SALAD OIL / CONCENTRATED OIL / SAN FRANCISCO." This deposit had more small key opened sardine cans (type R2) than any other deposit (a total of 18). Of all the refuse deposits inventoried, this was the

Type	Qty.	Diameter	Length X Width	Height	End Seam	Side Seam	Filling Method	Opening Method
A	41	6		8 3/4	Stamped	Crimped	Match Stick	Small Punch Holes
B	65	7		6 1/8	Crimped	Crimped	Entire End	Twist Opening
E	2	3		4 3/8	Stamped	Crimped	Match Stick	Small Punch Holes
I	11	3 3/8		4 9/16	Crimped	Crimped	Entire End	Twist Opening
R 2	18		4 3/4X3	3/4	Crimped w/Solder	Crimped w/Solder	Entire End	Key Opening
AB	1		5 5/8X4 3/8	10*	Crimped	Crimped	Through Spout Hole	Existing Spout
AF	2	3 3/8		4 9/16	Crimped	Lap and Solder	Entire End	Cut Around and Lift
AG	1		8 1/2X8 1/2	12	Crimped	Crimped	Through Spout Hole	Existing Spout
AH	1	3 1/4		4 1/2	Crimped	Crimped	Entire End	Cut Around and Lift
	142 TOTAL TIN CANS							

Table No. 9. F.S. 05-14-61-315, L4/Feature 2b, Tin Can Inventory. (*Estimated)

only deposit where a complete inventory was not possible. As explained in Chapter 3, many cans were very decomposed and diagnostic features were missing. It is estimated that the decayed fragments amounted to approximately 50 additional cans. There is no indication that these fragments came from any unique can types and, therefore, the above inventory is considered to be representative of the entire deposit.

Sardine Cans: Sardine cans were located in all three concentrated refuse deposits. No sardine cans were noted outside any of the refuse deposits. Three types were identified within the refuse deposits that varied slightly in dimension and style of construction (see Fig. No. 15). None of the three "sub-types" identified at the Tate Creek site exactly matched the dimensions of those identified at the Chippy Spur site (type R). Only a single sub-type was located in any given deposit. Sub-type R1 was located in the Locus No. 3 refuse deposit and was represented by only 3 examples. Sub-type R2 was represented by 20 complete, or nearly complete, samples from L4/Feature 2a and L4/Feature 2b. One of the R2 sub-type cans that was collected exhibits a lid

Fig. No. 15. Sardine can sub-types. L to R: type R1, type R2 with lid attached, type R2 with lid removed, type R3.

that was not twisted up as most of them were. Rather, it had been opened with a twist type can opener. The lid is stamped in the center with the following: "PACKED IN / CALIFORNIA U.S.A.". The R3 sub-type was unique to the L4/Feature 1 deposit. This sub-type is similar in design to the R1 sub-type but varies somewhat in dimension and in the design of the crimped upper end seam. The R3 seam extends straight up from the side of the can while the R1 upper seam flares out to the side. Unlike the R1 and R3 sub-types which had no side seam, the R2 cans exhibited a crimped side seam with machine applied solder present. Also unlike the other two sub-types, the keyed portion, when opened, would remove the entire top of the tin. The other two sub-types would leave portions of the top in the corners remaining.

KITCHEN RELATED TIN CANS NOT LOCATED IN REFUSE DEPOSITS

Two rectangular salad oil cans were recovered during the general surface collection in Locus No. 4. Both are partially legible. The brand name is not legible on one of them (261-315-19) but the bottom of the front panel of the can reads: "COTTON SEED / REFINERS ___... / SAN FRANCISCO." The other can (261-315-26) reads: "FIDELITY BRAND / SALAD OIL / MADE FROM THE HIGHEST GRADE / COTTONSEED OIL / THE MORAN COMPANY / SAN FRANCISCO." The Moran Company is known to have ran a pork packaging house in San Francisco during the 1910s (Zumwalt 1980:308). Apparently the company marketed more than just pork. Both cans are one gallon capacity cans. Both have small ring type handles soldered to the top. Both also exhibit a solder sealed filler hole on the top of the can and they were opened by a small knife punch on either end of the can top.

A. KITCHEN GROUP (cont.)

1. FOOD CONTAINERS (cont.)

b. Fruit Jars: Two "Ball" canning jars were noted within the site, one whole (261-315-9) with no lid and one fragmented (261-315-121) with an associated zinc screw cap. The whole one was recovered in Locus 1 during the general surface collection. It is cracked but complete. The jar is machine made (post 1903), and the glass color is a light aqua. The jar is embossed with the following: "BALL / PERFECT / MASON." The word "BALL" is embossed in slanting script while the words "PERFECT / MASON" are embossed beneath it horizontally in block letters. On the base is embossed a "6" or a "9". Ball canning jars are difficult to date precisely, but because this jar is machine made and because it is not embossed with the reference to the November 30, 1858 patent date (present on some jars up to 1913), the jar dates from the mid-1910s on (Toulouse 1969:36-39, 1971:66-68). It is a typical example of what has historically been an extremely popular preserves jar.

The other fragmented jar was recovered from the L3/Feature 1 refuse deposit and is identical in design and color to the whole jar. Only the upper portion of the jar was recovered. A zinc cap (261-315-124) and a milk glass insert (261-315-123) were recovered near the jar. The glass insert fit up and inside the cap and functioned as an insulator between the glass jar and the metal cap. It helped to provide an airtight seal and prevent the lid from imparting a metallic taste to the product within (Toulouse 1969:430). The insert is 3/4s complete and is lightly embossed: "GENUIN/ /D CAP FOR MASON JARS." If complete, it would read as follows:"GENUINE BOYD CAP FOR MASON JARS." The Boyd Company was another very large producer of canning jars and accessories. It was the Boyd Company which patented this closure type in 1869 (1969:430) It was certainly not uncommon for different brand jars and lids to be combined through time.

1. Food Containers
    a. Tin Cans
    b. Fruit Jars/Jar Lids
    c. Condiment Bottles/Jars
    d. Soda/Mineral Water Bottles
    e. Barrel Parts
    f. Other
2. Kitchenware
    a. Pots/Pans/Kettles/Bowls
    b. Ladles/Spoons/Knives
    c. Other Kitchen Equipment (sifters, rolling pins, etc.)
    d. Iron Stove Parts
    e. Other
3. Tableware
    a. Knives/Forks/Spoons
    b. Ceramic Dishes/Plates/Bowls
    c. Ceramic Drinking Cups
    d. Ceramic Serving Plates/Platters
    e. Tin Plates/Cups/Bowls
    f. Enamelware
    g. Drinking Glasses
    h. Glass Pitchers/Serving Vessels
    i. Other
4. Bone
    a. Butchered
    b. Non-Butchered
    c. Unknown

Table No. 10. Functional categories of Kitchen Group artifacts.

Because the Ball jar was the only one located in the deposit and the zinc lid and insert were also unique to the deposit it seems very likely that the two were related. The dimensions of the cap appeared to match those of the jar top.

A broken jelly jar (261-315-146) was recovered at Locus 4 on the edge of Flat b. The jar was reconstructed and found to be about 90% complete. It is a deep amethyst color and the diameter expands gradually toward the top of the jar. The jar measures 3 7/8" in height with a 2 1/16" base diameter and a 2 3/4" top diameter. It is not a typical canning jar and is shaped more like a drinking glass. The lid, although not recovered, was applied and sealed. It is not a screw cap type jar. The base is embossed in an unusual manner, to be read by viewing down through the top of the jar. It reads: "NO. 72 /PAT. IN U.S. / DEC. 22. 1903 / JULY. 17. 1906 / D 9." One other small glass container (261-315-148) was located adjacent to the jar described above. This was identified as a jelly jar by Jim Rock (personal communication 1989). It is missing a fragment from the side. It is clear, with a beveled design around the body of the jar and measures to a height of 2" with a 2 5/8" base diameter by 3 1/8" top diameter. Another small fragment was noted nearby (Locus 4) that matched this jelly jar in design (261-315-32). It did not fit with 261-315-148 and appears to represent the remains of a second identical jar.

c. Condiment Bottles: One small complete bottle (261-315-54) was recovered which was identified as a food additive (condiment) bottle (Jim Rock 1989, personal communication). It is a clear, rectangular shaped bottle with a long neck, sloping shoulders and a symbol embossed toward the top of the front panel. The symbol includes: "NYAL / QUALITY" with a small design underneath. The bottle has no makers mark, and no identification of the brand could be made. The only other artifact noted that might be assigned to this category is a small clear fragment of bottle glass (261-315-137). This fragment exhibits three sides of what is probably an octagonal body shape. Numerous octagonal shaped clear bottles of this type have been observed at other McCloud River Lumber Company camp refuse deposits. These bottles have been reliably identified as ketchup and condiment bottles from embossing and maker's marks on whole examples.

2. Kitchenware

a. Pots/Pans/Kettles/Bowls: An extremely decayed enamelware hinged coffee pot lid was recovered in L4/Flat b (261-315-147). It is from a small 1/2 gallon pot, and the diameter of the lid is 4 1/2". The small unrusted areas indicate that it was blue/grey in color. A large colander was noted on the surface in Locus No. 4. It was slightly bent with two handles on either end. It was made of stainless steel and was not rusted. It stood 18" high and had a diameter of 16". No distinguishing marks were noted on the pot. Colanders are a straining device used in the preparation of noodles or spaghetti. Another large two handled pot was noticed laying within L1/F3/Flat b. It was also made of stainless steel and was essentially unrusted. Although it was also somewhat bent, it was in relatively good condition measuring 16" high by a 16" in diameter. Like the colander, no distinguishing marks were noted on the pot. Neither the pot or the colander were collected. In L4/Feature 2b, fragments of a yellow ceramic mixing bowl were noted. The bowl was very fragmented and precise measurements could not be made. Fragments of the same type of yellow glaze ceramic bowl (3/8" thick) were noted within refuse deposits at the Chippy Spur site (Vaughan 1985b:34).

b. Ladles/Spoons/Knives: A large enamelware handle for a cooking pot or pan (261-315-129) was located in the Locus 3 kitchen refuse. It has been riveted to the pot or pan and broken off. Also noted in the same area was a round soup ladle (261-315-130), missing its handle. It is not related to the above mentioned handle.

c. Other Kitchen Equipment: A crushed, hand held flour sifter (261-315-15) was recovered during the general surface collection. It was located immediately adjacent to L4/Flat b. The body of the sifter is embossed: "HUNTER-SIFTER / STANDARD OF THE WORLD / THE FRED J. MEYERS M'F'G CO. / MILTON NEW YORK."

d. Iron Stove Parts: Three separate iron stove parts were observed. These consisted of a stove leg (261-315-72), an iron support bracket (261-315-155) and a grate (261-315-17). The stove leg was located within L1/F4/Flat a and is unremarkable. The iron support bracket located in L4/Flat b would have fit above the stove to help support a shelf or steel cupboard located above the main body of the stove. The iron grate measures 20" by 11 1/2". A portion of it had been broken off and was not located. One of the support bars was stamped "MADE IN SWEDEN." The piece has the appearance of something that was locally manufactured from various iron parts to replace the original stove grate that had either worn out or broken. The piece was somewhat asymmetrical in construction and the support bars show signs of blacksmithing work. This artifact was recovered during the general surface collection in Locus 4.

3. Tableware

a. Knives/Forks/Spoons: Several examples of standard dinnerware were observed. Two stainless steel dinner knives were recovered from the site (261-315-139 and 261-315-202) and a third one was noted. All three are identical in design being 9" in length and of one piece steel construction with rounded tips. No marks or designs are visible on any of the knives which were thoroughly rusted. One knife had been sharpened along one edge (261-315-202). Both were located in different tent flats, not in any refuse deposits. A stainless steel fork (261-315-49), 7 3/8" long, and a steel spoon (261-315-110), 6 3/4" long, were recovered. These utensils match one another and the knives in terms of their plain handle design and originate from the same basic setting. Another spoon (261-315-47), 5 3/4" long, was also located within a tent flat. This spoon differs from the other silverware in that it is actually made of a silver alloy metal which is discolored but entirely unrusted. The spoon is somewhat smaller than the other stainless steel spoon. On the handle, facing down, is engraved the following in small block letters: "T-D Co. HOTEL SPECIAL SILVER METAL."

b. Ceramic Dishes/Plates/Bowls: Only relatively small amounts of kitchen related ceramics were observed at the Tate Creek Logging Camp. All of the ceramic plates noted within the site consisted of common glazed whiteware. No ceramics were noted in Locus 1, 2 or 5. The majority of ceramic fragments were observed within two refuse deposits: L3/Feature 1 and L4/Feature 2b. Some scattered ceramic fragments were noted throughout Locus No. 4. No unbroken samples were noted within the site. Those fragments that exhibited maker's marks (seven each) were collected (Table No. 11). It was very difficult to estimate the number and type of ceramics represented from numerous small fragments scattered through a refuse deposit; however, it was

cautiously estimated that the ceramic fragments in L3/Feature 1 represented six full size dinner plates and two smaller saucers or plates. It was estimated that the ceramic fragments in L4/Feature 2b represented five full size dinner plates. No examples of ceramics were noted in the L4/Feature 2a refuse deposit, and only one small fragment of a plate (size unknown) was noted in the L4/Feature 1 refuse deposit. Of the six to eight small ceramic fragments in Locus 4, only one could be firmly identified as belonging to a full size dinner plate. Another of these small fragments was collected off the surface of Locus 4 due to the presence of a portion of the maker's mark. Although present at many other McCloud logging camps of the period, no patterned or painted fine china was observed at Tate Creek. Fine china and fine silverware is inventoried as part of camp assets for several camps in 1914 (McCloud River Lumber Company Inventory 1914:106,108).

All fragments exhibiting maker's marks were identified as plates or saucers. The fragment from Locus 4 is a small thin white glazed fragment (261-315-22) with only a small portion of the mark which reads: "HO- / W.S.- / 1 -/." This probably matches a mark identified at Chippy Spur that read: "HOTEL / W.S. GEORGE" (Vaughan 1985b:66). The W.S. George Company of Kittanning, Pennsylvania made semi-porcelain dinnerware from 1880 to 1959. A similar style mark dates to ca. 1930 (Kovel and Kovel 1986:224). The five ceramic fragments with W.S. George marks noted in Vaughan's report were recovered from the Chippy Spur site (F.S. 05-14-61-338). These were all identified as small bowls.

Another relatively small fragment (261-315-125) located in L3/Feature 1 reads: "J & G MEAKIN / HANLEY / ENGLAND" under a crest of arms. It is the remains of a saucer or small plate and represents the only imported ceramic identified within the site. J & G Meakin of Hanley, Staffordshire, England began business in 1851 and remains active to the present day. This mark dates to ca. 1890 (Kovel and Kovel 1986:11) and is the oldest datable artifact located at the Tate Creek site. No such maker's mark was noted at either the Chippy Spur or TramRail sites.

Two other plate fragments with maker's marks were identified at L3/Feature 1. Both plates (261-315-126 and 261-315-127) exhibit a portion of the same mark which reads: "MERCER." The name is framed diagonally across the design which has a crown on top. Both of these samples are from standard size dinner plates. The Mercer Pottery Company, Trenton, New Jersey, began manufacturing semi-porcelain and semi-vitreous ware in 1868. The company ceased production in the late 1930s. The mark was not firmly identified but a very similar mark (with the name "MERCER" diagonally placed in the opposite direction) dates to the early 1900s (Kovel and Kovel 1986:115). One example of a Mercer's maker's mark was recorded at the TramRail site (Vaughan 1985b:66).

At L4/Feature 2b three dinner plate fragments were identified with maker's marks. The three had all or part of the following: "H.R. WYLLIE / CHINA." The H.R. Wyllie China Company of Huntington, West Virginia was a rather short lived company which operated from 1910 to the late 1920s (Lehner 1988:529). No such mark was recorded at the other investigated McCloud Lumber Company sites.

Mark	Date of Company	Date of Mark	Qty.	Locus
W.S. GEORGE	1880 - 1959	unknown	1	4
J & G MEAKIN	1851 - present	ca. 1890	1	3
MERCER	1868 - ca. 1937	unknown*	2	3
H.R. WYLLIE	1910 - late 1920s	same	3	4

Table No. 11. Makers Marks recorded from ceramic dinnerware at the Tate Creek Logging Camp. (* identified mark matches very closely with one dating to early 1900s [Kovel and Kovel 1986:115]).

c. Ceramic Drinking Cups/Mugs: Two cups or mugs were recovered that were broken yet complete, one from L3/Feature 1 (261-315-128) and one from L4/Feature 2b (261-315-222). Both of these were reconstructed. L3/Feature 1 was estimated to contain two mugs and L4/Feature 2b was also estimated to contain two mugs. All of the mugs noted were identical and none exhibited any maker's mark. Both of the collected mugs are thick (3/8") and of heavy construction. They measure 3 1/2" top diameter by 3 1/4" in height. The mugs have no handles and fragments of other cups noted appeared to match these two in terms of dimension and design. These mugs were identical to those noted at the Chippy Spur and TramRail sites (Vaughan 1985b:65, 67).

e. Tin Plates/Cups/Bowls: One tin plate (261-315-199) was collected and a second one noted at the site. Both could be identified as pie pans instead of eating plates but the depth of the plates appears to be too shallow for use as a pie pan. Both are almost entirely rusted and exhibit identical dimensions: 8 3/4" diameter on top and 6 7/8" diameter on bottom by a 1" depth. Only a small portion of the collected plate is unrusted which shows the original tin surface.

f. Enamelware: A single rectangular shaped enamelware bowl (261-315-200) was recovered in L4/Feature 1. It has a diameter of 10 1/4" by 7 1/2" and a height of 2". This bowl exhibited no maker's marks and was the only one of its kind located at the Tate Creek site.

g. Drinking Glasses: Three identical drinking glasses were identified in various locations in the camp. One of them (261-315-113) is complete and unbroken and measures 3" high by a top diameter of 2 7/16" and a base diameter of 2". The glass is clear. On the base is embossed the number "5." The other two drinking glasses (261-315-99 and 261-315-205) were fragments of the same kind of glass. Both were over 60% complete. These three glasses are consistent in size and shape with a standard juice glass. A very small fragment of a drinking glass (261-315-158) was recovered from L4/Flat c which appears to be from a lighter or finer drinking glass than the others (2.3 mm thick as compared to 3.6 mm for the other three glasses). The fragment comes from the lip of the glass and is too small for any reconstruction of the original dimensions.

h. Glass Pitchers/Serving Vessels: The remains of two large glass milk pitchers (261-315-122, 6 fragments total) were recovered within the L3/Feature 1 refuse deposit. Both were recovered incomplete but the bases and handles for both were present. They were found adjacent to one another in an area within the refuse deposit that exhibited a concentration of ceramic fragments. They are too fragmented and incomplete to attempt any sort of reconstruction. The base diameter measures 4" but the glass expands in diameter above the base. The full diameter was probably about 8" and the capacity of each pitcher was probably 1/2 gallon. The glass is clear with a smokey tint. These pitchers were probably milk pitchers that would have been a part of the standard table setting.

7. Bones

All faunal material recovered at the Tate Creek site was identified to species through comparative analysis using the extensive collection located at the Zooarchaeological Laboratory, California State University, Chico. Identifications were made by Perry Haskin, in charge of laboratory operations.

a. Butchered: Four separate bones showed positive signs of butchering. These four elements are all rib bones from domestic cattle (Bos taurus). Two long rib bones were recovered within L4/Feature 2a. The other two rib fragments were smaller with one recovered in L4/Flat b and the other was recovered during the surface collection in Locus 4. The presence of the long rib bones suggests that beef was imported into the camp in the bulk form of full sides.

b. Non-Butchered: One right radius fragment from a domestic cow (Bos taurus) was recovered in the Locus 3 refuse deposit. The ends were very decayed and no sign of butchering was visible. This was the only bone located within this large deposit. It is believed that either the bones were buried somewhere close by or they were removed by scavenging animals. One right scapula fragment from a common black tailed deer (Odocoileus hemionus) was located at L2/F1/Flat d. No sign of any butchering was noted. Its occurrence on the surface of the flat (above the duff layer) makes its cultural association tenuous; however, 14 other elements belonging to the same species were recovered in the lower portion of the refuse deposit in L4/Feature 1. These elements were located together within the deposit and the eight vertebral elements were articulated when found. This certainly represents a hunting kill.

B. PERSONAL GROUP

1. Indulgences: Tobacco

a. Tobacco Tins: One of the most common artifacts scattered throughout the Tate Creek Logging Camp were discarded, upright, hinged-lid, pocket tobacco tin cans (Fig. No. 16). These tins

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1. Indulgences: Tobacco
   - a. Tobacco Tins
   - b. Smoking Pipes
   - c. Snuff Cans/Boxes
   - d. Other
2. Indulgences: Liquor
   - a. Whiskey/Gin Bottles
   - b. Ale/Beer Bottles
   - c. Wine Bottles
   - d. Crockery Jugs/Containers
3. Health and Cosmetic
   - a. Medicinal and Apothecary Bottles
   - b. Grooming (combs, brushes shaving, dental)
   - c. Perfume Bottles/Vials
   - d. Mirrors
   - e. Other
4. Clothing
   - a. Buttons
   - b. Buckles
   - c. Shoes/Boots
   - d. Gloves
   - e. Other Clothing Parts (eyelets, grommets, material)
   - f. Sewing
5. Personal Possessions
   - a. Toys/Games
   - b. Medals and Souvenirs
   - c. Luggage/Trunks/Cases
   - d. Writing/Ink Containers
   - e. Money
6. Firearms
   - a. Guns/Gun Parts
   - b. Shells/Projectiles
   - c. Other

Table No. 12. Functional categories of Personal Group artifacts.

were noted throughout Locus No. 1 and Locus No. 4 (Table No. 13). They were also noted within the tent flats in Locus No. 1, No. 2 and No. 4 (Table No. 14). These areas are believed to be the residential areas of the camp. Tobacco tins were noted within 3 of the 4 refuse deposits; L4/Feature 2A (18 out of 80 total cans or 23%), L4/Feature 2B (3 out of 145 total cans or 2%), and L4/Feature 1 (4 out of 65 total cans or 6%).

Upright tobacco tins became increasingly popular during the early 20th century and were still being marketed up to the 1980s (Rock 1988:72-75). Most tobacco tins at Tate Creek were rusted but, surprisingly, the majority had enough of the original lithography to allow for brand identification. A brief inventory of all tobacco tins noted on the surface of the site and those noted within exposed flats and features was accomplished. A total of 112 personal tobacco tins were inventoried throughout the site. Of these, 12 legible or partially legible tins were collected as representative samples from flats and features and from the surface collection. Of the 112 counted, 82 were legible enough to identify the brand. Four different tobacco brands were identified at the Tate Creek site: Prince Albert, Velvet, Tuxedo, and Edgeworth.

	Prince Albert	Velvet	Tuxedo	Edgeworth	Total
Locus 1	8	5	0	0	13
Locus 4	5	0	2	2	9
Total	13	5	2	2	22

Table No. 13. Number and brand of the identifiable pocket tobacco tins observed on the surface of the Tate Creek logging camp by loci.

	Prince Albert	Velvet	Tuxedo	Edgeworth	Total
Locus 1	6	2	0	1	9
Locus 2	2	0	0	32	34
Locus 4	9	7	1	0	17
Total	17	9	1	33	60

Table No. 14. Number and brand of identifiable pocket tobacco tins observed within the investigated tent flats and investigated features.

A description of the individual pocket tobacco tins by identified brand follows:

1) Prince Albert. Prince Albert cigarette and pipe tobacco was introduced in an upright pocket tin by the R.J. Reynolds Company in 1907. The lithography of the tin changed several times until 1913. The lithography adopted in 1913 remained unchanged until 1960 (Rock 1988:74-75). This post-1913 lithography design matched the Prince Albert tins observed within the site. The rear panel exhibited the following text:

PRINCE ALBERT
TOBACCO IS PREPARED
FOR SMOKERS UNDER THE
PROCESS DISCOVERED IN
MAKING EXPERIMENTS TO
PRODUCE THE MOST DE-
LIGHTFUL AND WHOLE-
SOME TOBACCO FOR CIG-
ARETTE AND PIPE SMOKERS

PROCESS PATENTED
JULY 30th 1907

R.J. REYNOLDS TOBACCO CO.
WINSTON-SALEM N.C. U.S.A.

DOES NOT BITE THE TONGUE

Of the identifiable tins observed, Prince Albert tobacco tins amounted to 37% of all brands located within the site. It was the second most common brand noted. Prince Albert was the most common tin identified during the general surface collection (59%).

2) Velvet. Legible Velvet tobacco tins accounted for 17% of the total identifiable tins within the inventory. The Leggett and Myers Tobacco Company was formed in 1911 and immediately began marketing Velvet Tobacco in upright pocket tins (Rock 1988:75). The lithography of the early tins had the brand name written in smoke. This design lasted until sometime in the late teens or possibly into the very early 1920s. The company name was added to the can between 1916 and 1918, and by 1926 a new label with a shield was adopted. The Velvet tins identified at Tate Creek all had the brand name written in smoke and the company name was noted on one can. These particular tins, therefore, were on the market from around 1916 to 1926.

3) Tuxedo. Only three Tuxedo tins were identified at the Tate Creek site making it the most rare of the four brands (4%). The American Tobacco Company began marketing Tuxedo in tobacco tins by 1901 (Rock:1988:73). The Tate Creek Tuxedo tins exhibited the original 1901 lithography. It is not certain when the lithography was updated. The tins were very rusted and only partially legible.

4) Edgeworth. Because of the surprising number (33) of these tins identified in association with tent flat L2/F1/Flat a, Edgeworth tobacco tins were the most numerous on the site (41%). The Edgeworth tins were the least common, however, in the general surface collection. Two distinct can designs were noted in the Locus 2 concentration. One was an upright hinged pocket tin and the other, slightly less common style, was a flat hinged tin. The flat pocket tins were popular around the turn of the century but were becoming less common during the early 1900s. According to Jim Rock (personal communication 1989), Edgeworth was marketing both the flat and upright tins simultaneously. Flat tins were popular for reuse (e.g. for fishing bait boxes). Only one upright and one flat tin were located and identified outside L2/F1/Flat a. The flat tin was noted during the general surface survey of Locus No. 4. The other upright tin was thoroughly rusted and located in L1/F4/Flat a. It was identified due to the embossing on the base of the can.

The preservation of the Edgeworth tins within the concentration at L2/F1/Flat a was remarkably good. Several of these bright blue tins were almost totally legible, and two of the hinged flat tins could be opened and the paper lining inside

Fig. No. 16. Pocket tobacco tins. Clockwise starting from bottom left: 1) Edgeworth "Plug Slice" Flat tin; 2) Edgeworth "Ready Rubbed" pocket tin; 3) Prince Albert pocket tin, front; 4) Prince Albert, rear; 5) Tuxedo pocket tin; 6) Velvet pocket tin.

was found to be still intact. The lithography of the flat tins and the upright tins are very close in appearance and text except that the upright tin is labeled "READY RUBBED" tobacco while the flat tin is labeled "PLUG SLICE" (Fig. No. 16). The entire front (or top) panel of the tin reads: "EDGEWORTH / EXTRA / HIGH GRADE / READY RUBBED (or PLUG SLICE) / MANUFACTURED BY / LARUS & BRO. CO. RICHMOND, VA.". The upright tins are embossed on the base: "SATISFACTION GUARANTEED / WILL NOT BITE THE TONGUE." On the side of both types was the statement: "FACTORY No. 45 2nd DIST. OF VA. / NOTICE.-The manufacturer of this Tobacco has complied with all / requirements of law. Every person is cautioned, under the penalties of / law, not to use this package for Tobacco again.".

Also recovered from this same deposit were small portions of the outer paper wrapping for these tobacco tins. The paper is light brown and extremely fragmented. There appears to be the remains of at least three different packages. This light brown or tan colored paper covered the tins prior to sale and consumption in much the same way that cellophane is wrapped around a package of modern cigarettes. None of the paper fragments are complete enough to be read entirely. The brand name was printed in red block letters, and the legible portion reads: "EDGEWORTH / MADE FROM THE / FINEST TOBACCO GRO__ / /__ OUR GUARANTE_.../." One of the fragments had a portion of the blue federal stamp still on it. The stamp was also very decayed and little could be read except "UNITED STATES" across the top.

b. Smoking Pipes: The remains of one pipe (261-315-56) was recovered from L1/F2/Flat b. Only the stem was located which had been broken off. The pipe stem had been whittled on the broken end to allow for reattachment. It is possible that the repair job simply didn't work and the stem was discarded. No other pipes or pipe fragments were noted.

d. Other: Three small circular tin lids were recovered, all of them stamped with the brand name "COPENHAGEN", on top and "SNUFF" on the bottom. In the center is a symbol which consists of a "G" and a "W" superimposed on one another inside a diamond. The lid is 2 1/2" in diameter.

2. Indulgences: Liquor

a. Whiskey/Gin bottles: A total of five complete cylinder fifth whiskey bottles were recovered from the Tate Creek site (Fig. No. 17), along with a neck and lip fragment and matching base, two rectangular quart whiskey bottle bases and a single isolated neck and lip bottle fragment. All bottles have been manufactured using the fully automatic bottle machine patented in 1904, and all had cork type closures. Screw top closures became popular around 1920 (Rock 1981:12). Since Prohibition was instituted in 1920, few liquor bottles were manufactured with this type of closure until 1933 when prohibition was repealed.

One whiskey bottle located on the surface near L1/F1/Flat a was a cylinder fifth (261-315-1). It was found in two pieces. The bottle is slightly amethyst in color and along the side just above the base is embossed: "NET CONTENTS FULL QT P.C.G.W.". The initials identify the bottle manufacturer which was the Pacific Coast Glass Works (Toulouse 1968:40, 1971 415-417). This company was formed in 1902 in San Francisco and made a variety of bottle types including whiskey bottles. Initially, bottles were being manufactured by hand and by the use of the semi-automatic bottle machine. Around 1912 the company began production utilizing fully automated technology. The factory was again modernized in 1924, and the name of the company was altered to

read Pacific Coast Glass Company. The mark embossed on bottles from this time forward was "P. C.". Because this bottle displays the earlier mark, and it was manufactured by the fully automated process, and because few, if any, whiskey bottles were produced after prohibition, it was manufactured between 1912 and 1920.

The next three complete cylinder fifth whiskey bottles were found together within a concentrated deposit at the rear of L2/F1/Flat a along with the numerous Edgeworth tobacco tins previously described. The bottles had not been thrown out the back but rather had been placed just outside or underneath the tent platform (see discussion in Chapter 3). All three are machine made and all three are completely clear. The first bottle (261-315-86) has a "T" embossed on the base with a number "1" under it. The second bottle (261-315-87) has "1/5 GAL." embossed on the shoulder and a "B" embossed in the center of the base. The third bottle (261-315-88) retains the cork and some remnant liquor. It has "1/5 GALLON" embossed along the shoulder and there is a "6" or a "9" embossed on the base. Identification of the glass manufacturer of these bottles was not possible.

Fig. No. 17. Beer and whiskey bottles. Left to right: 261-315-105, -89, -88, -87, -86 and -1.

The final cylinder fifth whiskey bottle fragment was located along the banks of Tate Creek northwest of Locus 5 (261-315-23). It consists of the complete neck and lip portion of the bottle with two additional fragments from the shoulder. There is no embossing. The bottle has apparently been on the surface exposed to sunlight for a long period of time. It exhibits a distinct yellowish tint which is a sign of selenium, a particular additive or element in the composition of clear glass. Prior to World War I clear glass was typically manufactured by using manganese as an additive (Rock 1981:17). It is this element, in various quantities, that is responsible for clear glass turning amethyst or purple by exposure to sunlight. Prior to World War I, the primary source for manganese in the United States was Germany. When the War began, the supply of manganese was disrupted and the United States turned to another additive that would turn glass clear: selenium. This additive tended to turn yellowish with age and exposure. Supplies of manganese did not disappear overnight, so some bottles with this additive do post date the 1910s but few, if any, bottles containing selenium were manufactured prior to the war; therefore, the bottle fragment located northwest of Locus 5 was most likely manufactured between the mid 1910s and 1920, when prohibition was instituted.

An aqua colored neck and lip portion of a whiskey bottle (261-315-209) was recovered adjacent to L4/Feature 1 along with a square 3" x 3" base (261-315-206) which was located nearby. It cannot be certain that these two bottle fragments belong to the same bottle, but no other remnants of any whiskey bottles were noted in the deposit, and the two match identically in terms of color and size. The bottle would have been a square body fifth. No marks on either the base or the neck were observed.

The remaining two whiskey bottle bases come from rectangular pint capacity bottles. One was recovered on the surface of Locus 5 (261-315-11). The glass is clear and there were three other small fragments of the body of the bottle nearby. The base is embossed with the makers mark of an "I" within a diamond shape. This mark was identified as belonging to the Illinois Glass Company and was utilized by that company from 1916 to 1929 (Toulouse 1971:264-268). In 1929 this company merged with the Owens Glass Company to form the Owens-Illinois Glass Company which is still producing glass containers to the present day. The second rectangular pint bottle base (261-315-24) was located in Locus 4 near the collapsed privy (Privy No. 3). The base was embossed with the letter "M". No particular manufacturer was identified from this mark. A screw cap (261-315-237) was located in Locus 4 which appears to belong to a whiskey bottle, but no marks were observed to help identify the brand. It appeared to be of recent age and may be the result of modern hunting activities occurring in the area.

b. Beer Bottles: In addition to the whiskey bottles located on the site, three beer bottles were identified. Two of them are complete 23 oz. bottles (Fig. No. 17) and the third is a fragmented 12 oz. bottle. One 23 oz. bottle (261-315-89) was located in association with the three whole whiskey bottles at L2/F1/Flat a. The bottle is dark amber, machine made with a crown cap type closure. No cap was located. Along the bottom portion of the body just above the base a "C7" was embossed. No manufacturer could be identified based on this mark and no other marks were noted on the bottle. The other 23 oz. beer bottle (261-315-105) was located alone just behind L2/F1/Flat b. This flat is located directly adjacent to L2/F1/Flat a and is part of the same feature. The machine made bottle was the same design and size as 261-315-89. The amber color was somewhat lighter and along the bottom of the body adjacent to the base was embossed "NET CONTENTS 23 OZ P.C.G.W.". P.C.G.W. are the initials for the Pacific Coast Glass Works. This maker's mark matches one identified on the previously discussed whiskey bottle collected off the surface of the site in Locus No. 1. This particular mark on a fully automated machine made alcoholic beverage bottle dates its manufacture between 1912 and 1920. The third amber beer bottle (261-315-27) was recovered from the surface of L4/Feature 1 to one side of the refuse deposit in an area where extremely decayed wood was noted. The shoulder, neck and lip were not located and the base of this 12 ounce bottle is unmarked. It has a modern appearance and may also be reflective of later hunting activities in the camp area.

d. Crockery Jugs/Containers: One other liquor related item was located at L4/Feature 1. This was the neck and lip fragment of a Chinese rice wine decanter (261-315-203). The brownware crockery fragment was unique to the site in that not only was it the only portion of such a container identified but it was the only Chinese artifact observed. The artifact is firmly identified by comparison to other existing complete and fragmentary examples (Brott 1982:48-49, Bente':1987:A-4).

3. Health and Cosmetic

a. Medicine and Apothecary Bottles: There were a total of 23 complete medicine bottles recovered at Tate Creek (Fig. No. 18). The fact that so many unbroken bottles were present attests to the undisturbed nature of the Tate Creek Logging Camp. Many of these bottles were located "in-situ" within various tent flats and features. Almost all of these bottles are small in size and very few are embossed with the product name. They are mostly of a generic type that were very popular during the early 20th century (Fike 1987:5). These bottles could be purchased in mass quantities by druggists and apothecaries, and various products subsequently inserted. Paper labels could then be attached identifying the product within and the pharmacy or company marketing it.

Fig. No. 18. Various medicine bottles. Left to right: 261-315-67, -55, -69, -44, -4, -68, -111, -78.

Most of the medicine bottles recovered from the Tate Creek site were manufactured utilizing post 1904 automation. Many others, however, were manufactured using a semi-automated process and the use of lipping tools. Although the Owens Bottle Machine was patented and in use by 1904, it was not capable of making small medicine bottles until 1909 (Fike 1987:4). In 1917 only 50% of all glass containers being produced in the United States were being manufactured using the fully automated process, but by 1925 90% of these containers were being manufactured using fully automated machinery (1987:5).

Standard Medicine Bottles: Two, identical, small, clear and complete medicine bottles (261-315-2 and 261-315-4), were located with a maker's mark that was difficult to identify. The mark, located on the center of the base, appears to be shaped like the outline of an eye, an ovoid shape pointed on either end (⬭). Both were located less than 5 feet from one another on the surface of Locus 1.

Another two identical medicine bottles were located in different tent flats. One bottle (261-315-46) was located in L1/F2/Flat b in the center of the flat. The other (261-315-68) was located in L1/F4/Flat a toward the rear of the flat. Both bottles exhibit a "2" embossed on the top center of the body panel just below the shoulder and a crescent moon embossed on the base which is presumably a maker's mark. No identification of this mark was obtained. The bottles appear to have been manufactured utilizing the semi-automatic bottle machine as the side seam extends approximately half way up the neck. The seam was erased by the use of a lip finishing tool. Such technology was very common during the first two decades of the 20th century (Rock 1981:9).

Another two identical, clear, machine made bottles were recovered, one at L1/F2/Flat a (261-315-40) and the other in the L4/Feature 2b refuse deposit (261-315-220). One of the bottles (261-315-220) has the cork still inserted, although there is no evidence of the contents remaining. The maker's mark consists of a diamond shape with a "22" embossed within it. The mark was not firmly identified, though it matches closely with a mark used by the Diamond Glass Company of Royersford, Pa. This particular mark was not utilized by this company until after 1924, but the mark is a common one used by numerous other companies. Toulouse (1971:550-552) lists at least seven other Diamond Glass Companies spanning the time period between 1865 and 1925. Many of them may have utilized this mark.

Two more identical medicine bottles were located in different areas of the site (Fig. No. 19). One of these (261-315-107) was located at L2/F1/Flat a, and the other one (261-315-134) was located at L4/Flat a. These bottles are excellent examples of the generic medicine bottles discussed previously. Both bottles are manufactured using the semi-automatic process. The seams on the neck have been erased by the use of a lip finishing tool. Both bottles are slightly amethyst pointing to the presence of manganese as an additive. The bottles have the word "QUALITY" embossed along the front panel just below the shoulder, and the word "PURITY" is embossed on the same side just above the base. On the opposite side of the bottle are two scales embossed vertically on either side of the panel. To the left is a scale from "0" on the bottom to "6" at the top with a "3" embossed at the top of the scale to one side of the "6". The numbers "2", "4" and "6" are embossed along the scale. On the right is another scale from "0" on the bottom to "30cc" on the top. The numbers "10" and "20" are embossed along the scale with the letters "cc" being embossed at the 30cc increment only. On the top center of this panel is a "3i" embossed just below the shoulder. The base of these bottles reads "BLUE RIBBON". The name Blue Ribbon has been attributed to the Standard Glass Company of Marion, Indiana (Toulouse 1971:87-89). These common

bottles came in a wide variety of sizes but retained similar stylistic qualities. The name Blue Ribbon was utilized by the company from circa 1920 to 1932 when the company apparently went out of business.

Another two medicine bottles were identified that, while not identical, are very similar to one another. The differences between them make for an interesting comparison (Fig. No. 19). These bottles are both embossed with the label "OWL DRUG CO" along the upper portion of the front panel just below the

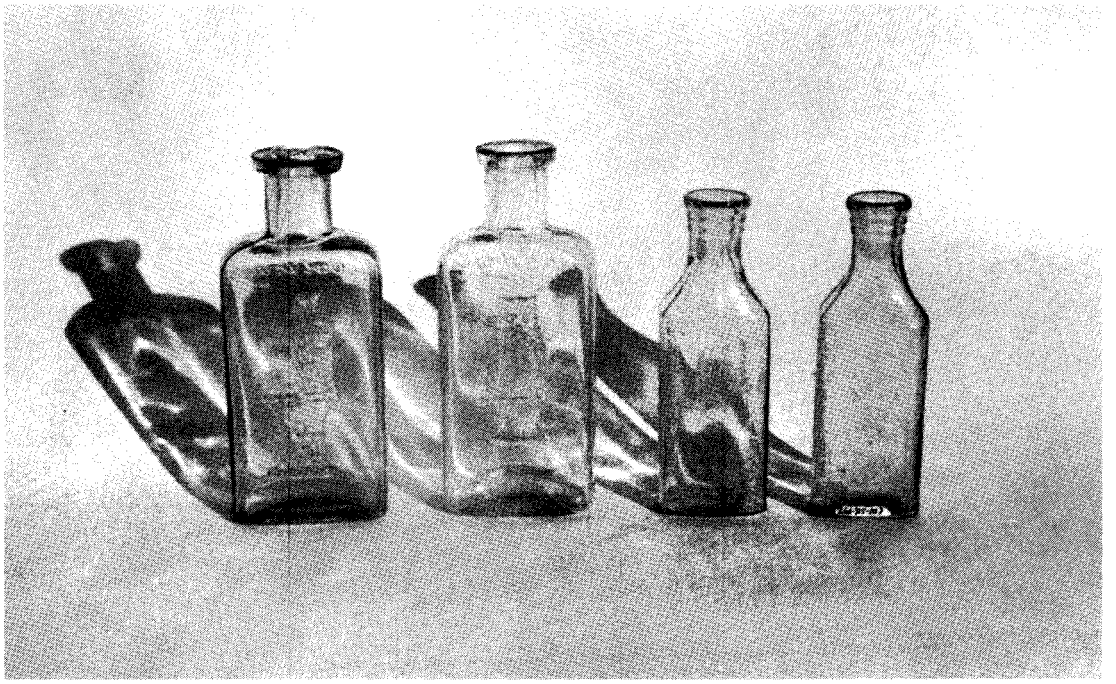

Fig. No. 19. "Owl Drug" bottles showing owl monogram embossed on the bottles (261-315-90 and -45), and two identical "Blue Ribbon" medicinal bottles, front and back panels (261-315-107 and -134).

shoulder. On the opposite side there is a symbol showing an owl perched on top of a mortar and pestle. The pestle has the initials "T O D Co" in fancy script written diagonally from the top left to the bottom right. The Owl Drug Company was established in 1892 on Market Street in San Francisco (Fike 1987:72). The Company became affiliated with Rexall in 1919 and went out of business in the early 1930s. While both of these bottles are the same size and capacity, and both exhibit the same pharmacy name, they vary somewhat in design and method of manufacture. One of these bottles represents early 20th century bottle glass technology while the other represents a later, more advanced technology. The first bottle (261-315-45) is amethyst in color (manganese additive) and was manufactured by a semi-automatic bottle machine with a neck and lip polished by the use of a lipping tool. The lip is of a flared design. The bottle exhibits several air bubbles (common in 19th and early 20th century bottle glass). The monogram shows the owl sitting on one side of a large mortar with a talon reaching out and holding the pestle. The owl's head is turned facing the front while it's body is facing sideways toward the pestle. The second bottle (261-315-90) exhibits fully automated machine manufacture and is clear with a slightly yellowish tint (the selenium additive). The seam is visible running up to the top of the neck and around the base of the lip. The glass is smooth and exhibits no air bubbles. The monogram on this bottle shows a larger owl facing front sitting on top of a smaller mortar. The pestle is underneath this larger owl but it is still being held by a talon. The first bottle has a maker's mark on the center of the base which appears to read as an "I". The bottle manufacturer using this mark was not identified. The Illinois Glass Company, a very large company during the early 1900s, used a single "I" inside a diamond from 1916 to 1929 (Toulouse 1971:264). No hint of a diamond shape could be discerned, however, the "I" itself is rather faint and may indeed be a number "1". The second bottle has a vastly different makers mark which was also unidentified. It consists of a "V" which is underlined and contained within a poorly defined semi-circular shape. The only thing that can be said with any certainty about the maker's marks on these two bottle is that they are completely different.

Other medicine bottles recovered are listed below:

a. One larger corked bottle was recovered with some contents still inside (261-315-111). It measures 6 5/8" in height. This clear, machine made bottle is not embossed except for a diamond shape on the base with the number "21" inside. A number "7" also appears on the base to one side of the diamond. This mark is very similar to those noted on bottles 261-315-40 and 261-315-220. As discussed above, the diamond mark was a common one used by various glass companies. The contents of this bottle is not known but it is yellowish in color and gelatinous in consistency. It gives the impression that it was not a substance to be taken internally but time and exposure may have altered its original form.

b. Another larger than average bottle (261-315-67) was located in L1/F4/Flat a. It was fragmented into 20 pieces but was reconstructed to represent approximately 90% of the original bottle. The bottle is a deep aqua color, machine made, and, while rather common in design, it is unique within the site. The bottle exhibits no embossing with the exception of a "3" in the center of the base. The rectangular shaped bottle stands 8 1/2" high.

c. A third example of a larger medicine bottle was located in the form of a shoulder, neck and lip portion of a larger, machine made medicinal bottle (261-315-119). The clear fragment exhibits no embossing. No other portion of the bottle was recovered.

d. One smaller than average medicine bottle was recovered from L1/F2/Flat b. This bottle has no embossing save a single number "2" on the base. It stands only 2 7/8" high. It was manufactured utilizing the semi-automatic bottling machine.

e. Two other base fragments from medicine bottles were recovered. The first (261-315-98) is a round, clear base with the maker's mark of a diamond shape with the number "508" within it. A number "12" was embossed just below the diamond. The commonality of the diamond shape mark has already been discussed above. The body of this bottle extends upward enough to read a portion of a single embossed word; "SCALP". Too little remains of the embossing to identify this bottle beyond being able to place it in the medicine bottle category.

f. Another rectangular bottle base (261-315-213) retains a portion of the front body panel which was embossed: "SLOAN'S /INAMENT". The entire panel would have read "SLOAN"S / LINAMENT". Advertisements indicate that Dr. Sloan was in business throughout the late 19th century and the company he founded continued on at least until the early 1930s (Fike 1987:137). The base exhibits the previously discussed Illinois Glass Company mark of a diamond shape with an "I" in the center. This dates the manufacture of the bottle between 1916 and 1929.

g. Another glass container included within this category is a very small hand blown straight glass vial with a cork. The glass is clear and smooth with a diameter of 7/16" and a height of 2 7/16" without the cork. No distinguishing marks were observed on the vial.

Two small matching pill bottles were located in different tent flats. One is complete and unbroken (261-315-70) and the other is a fragment 70% complete and missing the base (261-315-117). Both of these bottles are clear and octagonal in body shape (3/4" dia. x 2 3/8" hgt.). On the base is the maker's mark which consists of a diamond shape with an "I" inside. This mark is identified with the Illinois Glass Company (Toulouse 1971:264-268). The mark was used by this company from 1916 until 1929. A third pill bottle (261-315-44) was recovered which was somewhat

larger than the other two bottles. The bottle is round and narrow (1 1/8" dia. x 3 1/2" hgt.) and is clear. Along the shoulder is embossed "IRON NUXATED." No reference for this was found. The base exhibits the same diamond and "I" mark as noted above.

Two complete cobalt blue "Vicks" type screw top jars (261-315-108 and 261-315-133) were recovered from two different tent flats. Both are identical being 1 3/4" in diameter by 2 1/2" in height. Both have metal screw caps attached that are covered with rust. Both also have an interesting mark embossed on the base which consists of two triangles one inside the other. While identical in design, the mark on 261-315-108 is smaller than the mark on 261-315-133. This mark is associated with a "Vicks VA-TRO-NAL" bottle dating to the early 1930s (Fike 1987:184). While this does not date the two recovered bottles, it does firmly associate the mark with the Vicks brand.

Four complete screw top "Mentholatum" jars were found after clearing L2/F1/Flat a. Two of these (261-315-91 and 261-315-94) are missing the metal screw caps but the other two (261-315-92 and 261-315-93) have the caps attached. The jars are made of white "milk" glass. They are embossed on the base: "MENTHOLATUM / REG / TRADE / MARK." The metal caps are also embossed with the brand name "MENTHOLATUM." The Yucca Company of Wichita KS. marketed Mentholatum rub from 1889. In 1906 the company name was changed, and the Mentholatum Company was incorporated (Fike 1987:83). The company moved to Buffalo, N.Y. and closed the Wichita office soon after. This popular product is still on the market.

Three whole, clear "Vaseline" jars were recovered. Two of them have metal screw top caps with surface rust. One of these two (261-315-163) retains some of the product inside while the other (261-315-152) is empty. The third machine made jar (261-315-207) is missing the screw cap. All three jars are embossed on the body: "TRADE MARK / VASELINE / CHESEBROUGH / NEW YORK." The cap on 261-315-163 is partially legible and reads: "-ROUGH MFG. CO- / -E SEAL / -NE." Robert A. Chesebrough discovered the healing properties of petroleum jelly and was marketing the product as early as the 1860s (Fike 1987:56). By 1880 the product was widely distributed and labeled "Blue Seal Vaseline Petroleum Jelly. Chesebrough died in 1933 and the company was merged with the Pond's Extract Company in 1955. The product is still widely available. Vaseline jars switched from cork enclosure to a screw cap in 1908.

b. Grooming: Two separate comb fragments are included here. One mid section fragment (261-315-48) is black and is the remains of a typical pocket comb. It is engraved along the top edge: "ANCHOR." The comb is plain and is probably made from hard rubber. The other fragment (261-315-164) is from a smaller comb.

It is a cream color and is also a mid section. It appears to be very plain exhibiting no distinguishing marks. The material of manufacture is uncertain, perhaps an early form of plastic.

Three single edge razor blades or blade fragments were located in L1/F4/Flat c. All are badly rusted but two of them (261-315-77) are partially legible. These two blades were recovered together and are identical in design. One of them has the brand name etched along the top of the razor which reads: "GEM RAZOR NY USA." The other side is not legible. The third one (261-315-82) was located some distance away from the other two in the same tent flat. Only the head or top portion of the razor remains as the blade was broken off. The head style is different from the other two. It is thoroughly rusted obscuring any writing that may have been present.

In L2/F1/Flat b both a toothbrush (261-315-104) and a toothpaste tube (261-315-106) were located adjacent to one another. The toothbrush is white and is 6 3/8" in length. The head is angled slightly from the handle. The handle has the following lettering painted in black: "MEDIUM PRO-PHY-LAC-TIC / MADE IN U.S.A. / A CLEAN TOOTH NEVER DECAYS", and further up the handle: "GUARANTEED / FLORENCE MFG. CO." and at the end is a number "6" enclosed by a square outline. The material of manufacture is uncertain. The toothpaste tube is aluminum with what appears appeared to be a painted on white covering. It is rolled up approximately half way. One side, written vertically in relation to the body of the tube, reads: "S.S. WHITE", and on the opposite side it reads horizontally: "S.S. / WHITE / TOOTH / PASTE." The word "White" is underlined. The tube could not be further unrolled without damage to the artifact. The small aluminum screw cap is still in place. It is embossed with what appears to be the company crest. This consists of an "SS" on top of a "W." Embossed around this crest was: "TOOTHPASTE / MADE IN U.S.A.". Neither of these artifacts was identified in terms of specific references to the product name. Toothpaste was available in metallic tubes by 1900. A tube of toothpaste is offered as an "often preferred alternative to toothpowders and toothwashes" in the 1902 edition of the Sears and Roebuck Catalogue (pg 461).

d. Mirrors: A few small fragments of mirror glass were noted in L1/F2/Flat b. A corner fragment of a large hanging mirror was noted within L2/F1/Flat b. It had a beveled edge but its original dimensions were impossible to determine. None of these fragments were collected.

e. Other: An internal friction lid tin can (261-315-149) was located in L4/Flat B. The lid was intact and embossed with the following: "DRI-FOOT." This small can, measuring 1 7/8" in height by 2" in diameter, was covered with surface rust and no other writing was visible. It is assumed that this can contained

some kind of foot powder. In addition, a small bandage clasp (261-315-34) was located in L1/F1/Flat a. A tiny fragment of material was attached. It appears to be identical to a modern "Ace" type bandage clasp.

4. Clothing

a. Buttons: Two small buttons were recovered from the Tate Creek site. A small button was located at the northern edge of the pit feature L4/Feature 1. It measures 3/8" diameter and is made of shell. It was recovered in a very decayed condition. This type of button was common for shirts and underwear from

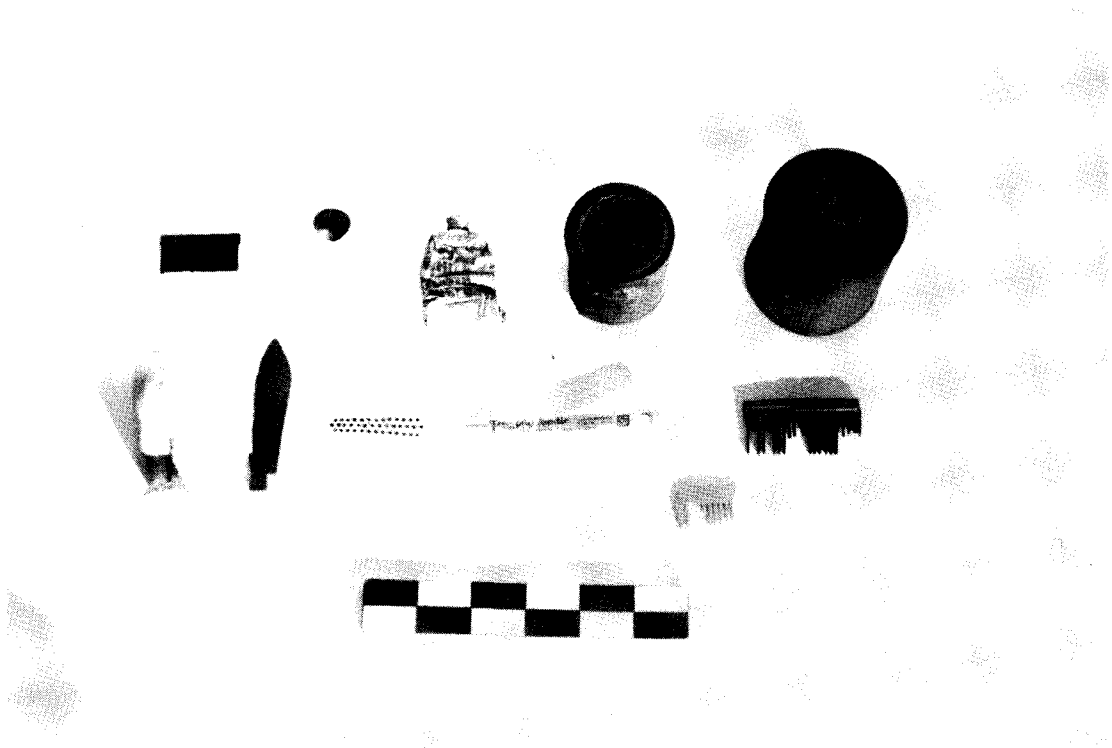

Fig. No. 20. Personal related artifacts including, clockwise from the top: single edge razor blade (261-315-77); bent 1919 penny (261-315-79); toothpaste tube (261-315-106); small internal friction lid can embossed "Dri-Foot" (261-315-149); screw top can identified as a shoe oil can (261-315-6); two comb fragments (261-315-48 and -169); a toothbrush (261-315-104); a pocket knife blade (261-315-103); and a "Kewpie Doll" body (261-315-100). Scale is 6".

circa 1800 up to the present time (Furnis 1987:D-6). Another button, located in L4/Flat b, is a two piece metallic button. The front piece is brass and is stamped "BOSS OF THE ROAD." The rear piece is tin and mostly rusted away. The button is most likely from overalls or work jeans.

b. Buckles: A suspender buckle (261-315-39) was found in L1/F1/Flat a. No distinguishing marks were noted. The buckle had a small amount of cloth attached to it.

c. Shoes/Boots: The remains of four different shoes or boots were noted within the site. All were in a very decayed condition. Two of them were probably standard work boots. One was located immediately adjacent to L1/F2/Flat a and the other was found within L4/Flat a. The remains of a rubber overshoe was noted at L4/Flat c, and the sole portion of a shoe or boot was noted at L1/F4/Flat c. This last shoe (261-315-84) had the name "KEDS" embossed on the sole. The brand name is located just up from the heel and more writing is visible but difficult to read as the shoe is very worn. Other shoe related material recovered includes a leather shoe lace (261-315-65) and a shoe hook (261-315-65).

Two small cylindrical tin cans are included within this category. These tins measure 2 3/4" in diameter and 3" in height with a central screw cap (1" diameter and about 1/2 up from the top of the can). Both cans have the cap attached which exhibits two small notches opposite from one another along the edge of the cap. This was made so that an individual could take a nail or a screwdriver and lay it across the cap and twist. Both cans are totally rusted, and no lithography is visible. One can has a build up of resin like substance on the top. These tins were classified within the Personal Group when an identical can was identified at another McCloud River Lumber Company camp site (F.S. 05-14-61-231). The rear panel of this tin was unrusted and legible. This identified the former contents as oil used for waterproofing shoes and boots. The brand name was not legible but the mixture was marketed by the Theo. Bergman Shoe Manufacturing Company of Portland, Oregon. The instructions specify that the mixture must be reapplied to shoes and boots every couple of weeks. This unusual can precisely matched those located at Tate Creek. One of these shoe oil cans was located during surface collection near L1/F4/Flat c and another was located within L2/F1/Flat a. Also a screw cap belonging to this type of tin was located within L1/F1/Flat a.

5. Personal Possessions

a. Toys and Games: The one item categorized here is the body fragment of a porcelain "Kewpie Doll" (261-315-100). It was uncovered within L2/F1/Flat a. The head and arms are missing. The naked cherub type figure has holes in the sides of shoulders for movable arms. The flesh colored doll is inscribed with the signature of the maker on the base of the feet. The signature identifies the doll as an original "O'Neill" Kewpie Doll. The original 5" bisque Kewpie doll was introduced to the American public in the 1909 Christmas issue of the Ladies Home Journal. Rose O'Neill began manufacturing her dolls in 1910 and maintained production until her death in 1944 (McCanse 1968:126). The original doll (the first version) is described as having "molded and painted hair, painted side glancing eyes, closed watermelon smile and tiny molded blue wings on the shoulder" (Collier 1989:376-377). Comparison of the Tate Creek doll body to existing photographs confirm the identification of the doll as an original, first version, 5" Kewpie Doll.

c. Luggage/Trunks/Cases: The remains of a trunk was located near L1/F2/Flat a. The metal frame for the top gives the original dimensions of the trunk which is 36" by 18". The lock mechanism (261-315-7) was also noted but the body of the trunk was completely gone. The lock had been directly attached to the body of the trunk. Small fragments of what appears to be leather are still attached to the rear of the mechanism. Also noted in L1/F1/Flat a was a small size, light weight padlock with a key rusted into the key hole (261-315-36). No marks were visible as the entire padlock was severely rusted.

d. Writing/Ink Containers: A broken ink bottle was collected in Locus 1 during the general surface collection (261-315-8). The clear, machine made bottle is only about 1/2 complete but the base was recovered. The base is embossed but the clarity of the embossing is very poor. The embossing is barely legible as: "----RMAN." No firm identification of the brand name or glass manufacturer could be made. The diameter of the bottle is 2 1/8" and the height is estimated at around 3".

e. Money: One bent penny (261-315-79) was located at the rear of L1/F4/Flat c. The penny is dated 1919. It is bent in an odd fashion as if it was hit by a projectile, possibly clipped by a small caliber bullet.

f. Other: The main blade of a pocket knife (261-315-103) was found in L2/F1/Flat b. The blade exhibits surface rust and is 3 1/16" long. No distinguishing marks are visible on the blade and no evidence of the rest of the knife was noted in the tent flat.

6. Firearms

b. Shells/Projectiles: One rifle shell was recovered in L1/F4/Flat c. It is a spent centerfire rifle shell (261-315-81). The base is stamped: "25-36 MARLIN / W.R.A. Co.". This shell is noted as an "obsolete" cartridge used originally in the Marlin 25-36 lever action repeating rifle, model 1893 (Logan 1965:110). This rifle was developed to compete with the very popular 25-35 Winchester. The cartridges were not interchangeable. The Marlin lever action rifle was itself very successful and was the most popular rifle of the Marlin Company throughout the first half of the 20th century (Hogg 1978:228-229). The W.R.A. Co stamp identifies that the cartridge was being loaded by the Winchester Repeating Arms Company. It was not uncommon for companies to load shells to be used in a variety of different kinds of firearms. The W.R.A. Co. mark was discontinued in 1940 (Barnes 1965:110). The Sears and Roebuck Catalog of 1902 advertises the Marlin 25-36 cartridge for sale along with numerous others.

C. ARCHITECTURAL GROUP

1. Construction Hardware

a. Round/Wire Cut Nails: At the Tate Creek site a combination of common nails and finishing nails (or flooring brads) were noted in the tent floor construction. Large 12, 16, and a few 20 penny nails were noted within and along the center joist of the sub-frame as well as around the 2" x 12" side

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1. Construction Hardware
   - a. Round/Wire Cut Nails
   - b. Square Machine Made Nails
   - c. Square Hand Made Nails
   - d. Spikes/Tacks/Staples/Screws
   - e. Nuts/Bolts/Washers
   - f. Hinges/Latches/Doorknobs
   - g. Wire (bailing, etc., non-electrical)
   - h. Canvas
   - i. Electrical
   - j. Other

2. Structural
   - a. Lumber/Beams/Posts
   - b. Sheet Tin/Corrugated Tin
   - c. Brick
   - d. Window Glass
   - e. Other

3. Furniture/Housewares
   - a. Sheet Metal Heating Stove
   - b. Chairs/Tables/Dressers
   - c. Beds
   - d. Lamps
   - e. Other

Table No. 15. Functional categories of Architectural Group artifacts.

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boards. The most numerous were the 8 penny common nails which were used for the general sub-floor construction. The tongue and groove flooring was attached to the sub-floor frame using 8 penny finishing nails. Nails were not common outside of the investigated tent flats or the remains of the 3 privies. Excavation Unit No. 1 revealed little in terms of structural information but it did facilitate the collection of a sample of the common nails associated with the tent floors. All nails noted at the Tate Creek Logging Camp were of the machine made, wire cut variety.

e. Nuts/Bolts/Washers: A long bolt, threaded on either end with 7/8" square nuts on both ends and two small 2 1/2" diameter malleable washers was noted on the surface of Locus No. 2 near Feature No. 1. The bolt is bent at both ends, and measures 25" in length, and is typical of the type which holds large wooden beams together. It is not known if the bolt may have been related to a log trestle or grade support that may have been located close by. The malleable washers are embossed: "PAT MAY 10 - & DEC - 13 - 04 1/2 30 ." Another larger 5" diameter malleable washer was noted at the rear of L2/F1/Flat a. This one was embossed as follows: "PAT MAY 10 - 04 & OCT 29 - 7 MALL 1 1/4 01."

h. Canvas: A steel canvas eyelet (261-315-138) with material still attached was located in L1/F2/Flat b. A large clasp or buckle (261-315-138) was located in L4/Flat b which has a small amount of canvas attached to it. Some small fragments of decayed canvas were observed during the excavation of L4/ Feature 1.

i. Electrical: Two electrical related items were recovered. One is a washer type connector (261-315-60) with the lead broken off. The second item is a short section of cloth insulated wire (261-315-74) with twin washer type copper leads on either end. What kind of device this wire belonged to is unknown.

2. Structural

a. Wood Beams/Posts: In addition to the boards associated with the tent floors and privies, small amounts of milled lumber were noted in other areas. Several 2" x 4" boards were noted in Locus 3, and several 2" x 4" and 2" x 8" boards were noted in Locus 4 between Feature 1 and Structural Flat b. No other concentrations of lumber and no evidence of any standard sized wooden structures (cabins, skid shacks, etc.) were noted within the Tate Creek Logging Camp.

Numerous railroad ties were located in the residential areas of Locus No. 1. Several of these had heavy galvanized wire wrapped around the ends. Although none were standing upright, it is strongly suspected that these ties were old ones which had

been damaged or stressed during use along the railroad and were subsequently being reused as tent support posts. Two of these ties exhibited railroad spikes with the heads sheared off indicating former use on a railroad grade. The historic photograph of Camp 5 (Fig. No. 1) clearly shows thick, squared off posts standing erect around various individual tents. If the tent flats were abandoned in place, it seems likely that the supports would be left as well. Also, two railroad ties were located still standing upright in the ground at another McCloud River Company logging camp (F.S. 05-14-61-135) (Elliott 1989). It is estimated that this site is roughly contemporaneous, or may just predate, Tate Creek's period of occupation. The ties were located in an area believed to be the residential portion of the site.

b. Sheet Metal/Corrugated Tin: Several fragments of corrugated tin sheets were noted. Some fragments were noted just southwest of the L1/Feature 2 tent flats along with some decayed fragments of a sheet metal heating stove(s). A section of galvanized corrugated tin was extracted during the excavation of L4/Feature 1 (see Chapter 3).

c. Window Glass: Fragments of aqua tinted window glass were located in the rear portion of L1/F2/Flat b. This flat had been reliably identified as a tent flat. Because this was the only place that window glass was observed within the entire site and because other artifacts believed to be furniture related were located in association with the glass, it is believed that the glass was most likely part of a furniture item (see section 3e below).

3. Furniture/Housewares

a. Sheet Metal Heating Stove: One leg to a sheet metal heating stove was located at L4/Flat b. It was thin metal and very rusted. Portions of a heating stove were also noted along with some corrugated sheet metal in Locus 1. These stoves were small and inexpensive and each tent was probably equipped with one. The 1914 inventory ledger lists 40 separate sheet metal stoves with a value of $1.00 each (1914:140). Smoke would be funneled up and out by a stovepipe from the stove to an elbow joint which protruded outside the tent as shown in the Camp 5 photograph (Fig. No. 1). At least some of these stove pipes were supported, in part, by thin poles which can be seen in the same photograph.

c. Beds: A steel frame bed was located in two pieces in Locus 1. The bed frame had been broken and apparently discarded. It measured 6'x 3' and the metal head board measured 3' high. The foot board was missing. The mattress support consisted of a series of wire links which formed a mesh that was supported by springs attached to the front and rear of the frame. The metal

head board appears identical to the bed frame partially visible within a central tent in the historic photograph of "Camp 5" (Fig. No. 3, Chapter 3).

d. Lamps: Two fragments of circular, clear glass (261-315-43) with an angled and ground edge found in L1/F2/Flat a are most likely the remnants of a glass lamp. The glass is embossed: "R 13." No other discerning marks were noted. Another clear glass fragment located in L2/F1/Flat d is undoubtedly a lamp fragment (261-315-116). This fragment is the very top portion of the lamp with the typical fine ridges around the top edge.

e. Other: Two small washers and three wood screws were located in L1/F2/Flat b. This, along with a part of a small door latch mechanism (261-315-53) and some window glass, were unique to the site and may represent the remains of some sort of furniture item, such as an enclosed cupboard with glass doors. No wood remnants of any furniture were noted in the area but a long strip of iron siding with screw holes was noted adjacent to the flat.

Several other items were categorized under the housewares group. Included are the three crushed garbage cans noted in L3/Feature 1 and the two garbage can lids found in L4/Flat b. One of the two lids was collected. This can lid (261-315-153) measures 17" in diameter and 1 1/2" high. The lid differed from the others. It is made of galvanized steel and resembles modern garbage can lids only somewhat smaller. Under the handle is stamped: "PAT-D. DEC 3-1912." The garbage cans noted within the Locus 3 refuse deposit matched the design of the second can lid located in L4/Flat b. The top handle was rounded and attached by rivets, matching the side handle design of the cans in Locus 3. The lid also matched internal friction design of the Locus 3 cans. No garbage can was noted on the site that matched the external friction lid exhibiting the patent date. Other materials noted included broom wire, noted in L1/F4/Flat c, in L3/Feature 1, and in L4/Flat b, and the remains of a mousetrap, noted in L2/F1/Flat d.

D. INDUSTRIAL GROUP

1. Logging

a. Axes/Saws: Two saw fragments were noted at the Tate Creek Logging Camp. Both were from falling saws. A short fragment (6 1/2" long) was observed in Locus 5. No marks were noted and it was not collected. The other fragment (261-315-210) is 31 1/4" long and is broken on both ends. Its thin body (5" at the widest point) identifies it as a falling saw. It was located within the refuse deposit at L4/Feature a. No marks are visible along the saw blade.

1. Logging
   a. Saws and Axes
   b. Lubricant Containers
   c. Steam Donkey Related
   d. Other
2. Railroad
   a. Rolling Stock Related
   b. Grade Related
3. Blacksmith/Tack
   a. Horseshoes/Tack
   b. Wagon/Buggy Parts
   c. Blacksmith
4. General Industry
   a. Chemical/Poison Bottles
   b. Black Powder Containers
   c. Paint/Varnish Related
   d. Oil Containers
   e. Communication (phone wire, insulators)
   f. Barbed Wire
   g. Other

Table No. 16. Functional categories of Industrial Group artifacts.

A double edged axe head was found in Locus 5. The handle is gone except for a small portion still attached to the head. The head has probably had more than one handle as both sides have been hammered repeatedly near the center. The head is stamped on one side: "-RUCIBLE STEEL BITT" and the other side has a "4" stamped on it.

Six separate hand held saw files were located in five different tent flats. Five of the files (261-315-35, -41, -83, -118 and -120) are identical. All five are 10 1/2" long except for one (261-315-83) which had been used to pry on something. It has been slightly bent and the very end of the thin handle has been broken off by 3/8". All five have the name "SIMONDS" stamped on one side of the handle. The sixth file is of the same design and grain but is only 9 1/8" long. "U.S.A." is stamped on the handle horizontally to the body of the file and just above that "GT. WESTERN" is stamped vertically in relation to the body of the file. All six of these files are identified as saw sharpening files. The presence of these files in different tent flats suggests that individuals were sharpening their own saws within the residential areas of the camp.

b. Lubricant Containers: One lubricant container was noted in Locus 5 adjacent to the creek. It was a 5 gallon galvanized steel oil can. The handle, spout and center cap were all

missing. No marks were observed on the can and it was not collected. Oil would be dispensed onto saw blades in relatively small quantities at any given time. Tall bottles like wine and whiskey were particularly popular for this type of use.

c. Steam Donkey Parts: Two parts of a steam donkey were located in Locus 5. One was a broken iron drum frame (Bruce Petty 1989: personal communication). The other was a steam boiler attachment. The latter artifact, 3 feet in diameter, had the appearance of a hollow tube like steel ring with bailing type wires attached. A spark arrestor, smashed flat, was noted in the southern portion of Locus 4 immediately southwest of the railroad spur. The cone shaped, screened device almost certainly came from a steam donkey boiler as almost all of the McCloud Company locomotives were using oil by the late 1910s (Hanft 1971:103). A pile of heavy wire screen, identical to that attached to the spark arrestor was noted on the other side of the spur. This was most likely extra screen kept on the camp site for replacing old or damaged screen.

2. Railroad

a. Rolling Stock: A steel shaft with an attached handle was located in the southeastern portion of Locus 2 adjacent to the creek. It might be a brake lever for a flat car but this identification is considered to be very tentative. It may also be related to a steam donkey.

b. Grade: Few items were noted that relate directly to the railroad grade. Several short lengths of rail were noted. Two lengths were located in Locus 4. One was just southwest of the spur grade and southeast of L4/Feature 1. The other was located toward the northern end of Locus 4 immediately adjacent to the creek. Another short piece of rail was located in Locus 3 with several 2" x 4" boards and a length of water pipe. One full length of rail was observed in the creek in the extreme northwestern portion of the site. As discussed in the architectural section above, numerous railroad ties were observed in association with various tent flats. A railroad spike was noted in L1/F4/Flat c and in L4/Flat b. Also noted in Locus 2 were the previously discussed decayed logs that may represent the remains of a log bridge.

4. General Industry

a. Chemical and Poison Bottles: A bottle located in L4/Flat c was identified as most likely being a chemical bottle (261-315-165). The small brown bottle has an intact metal screw cap with a cork attached inside the cap. The bottle measures 5 1/4" in

height and 1 7/8" in diameter. There is a maker's mark on the base which is difficult to read. It appears to consist only of a "G" with three dots above it. No identification of the bottle manufacturer was made.

b. Black Powder: The use of explosives was common in early 20th century logging practices. The only evidence of such explosives at Tate Creek was a decayed tin powder keg (261-315-13) found in the southern portion of Locus 1 near the creek. The keg is smashed and much of it is rusted away. The top is partially intact and exhibits a pouring spout. The brand name "HERCULES" is embossed across the top. The diameter of the keg is 9", and the height, not possible to measure precisely, was approximately 12".

c. Paint/Varnish Containers: One rectangular, handled paint or varnish tin can was recovered in Locus No. 1. It is embossed: "THE SHERWIN WILLIAMS CO. / PAINT AND VARNISH MAKERS / CLEVELAND / CHICAGO / NEW YORK / MONTREAL / BOSTON / TORONTO / SAN FRANCISCO." A spout is located on the top to one corner of the can. The can is not soldered and exhibits locking seams.

g. Other: Included here are two fragments of a coal shovel head (261-315-18). There is no direct evidence to associate the shovel with logging activities as opposed to other industrial activities (camp maintenance, railroad, etc.). The shovel is of single piece steel construction. The wooden handle is broken off about 10 1/2" above the end of the steel portion of shovel. The upper portion of the shovel head (that section attached to the wood handle) is stamped: "RUSSWOOD / CRU___E S_EEL" with a large "2" right next to it.

Also included here are three external friction lids to fiber body cans These were embossed "CHLORINATED LIME" along the top. Two of them were located on the surface near Locus 4, Feature 1 (261-315-20 and 261-315-25), and one was located within the remains of the Locus 4 privy feature. The only other item included here is a 12 pound hanging scale weight (261-315-31) found in Locus 2 adjacent to Feature No. 1. This bell shaped weight has a "12" embossed on the shoulder. The hook is still attached. It is not certain what function a hanging scale might have played at the camp or why the weight would be abandoned.

ARTIFACTS MODIFIED AND REUSED

This category was added to facilitate the discussion of several artifacts that had been modified to serve a second, different function from what was originally intended. Recognition of this type of artifact is important because it may serve to indicate innovation on the part of camp workers. It may also serve as an indicator of how well supplied the camp workers were. Several tin cans were noted within the site that had been modified from their original function to fulfill some secondary

purpose. They include a type A one gallon evaporated milk can (261-315-12) which was made into a small bucket (Fig. No. 21). The top had been cut off and the jagged edge bent down inside to form a smooth border. Two holes at either end near the top were punched through and a wire connected to create a handle.

Two type B cans with nails punched through the base were found (Fig. No. 21). One of these had nail holes punched in the bottom and along the bottom edge (261-315-29). The modified function of this can is unknown. The other type B tin can (261-315-51) was located in L1/F2/Flat b. Unlike the first can, the nail holes in this can had been punched in a distinguishable pattern or outline. The holes form the figure of the profile of a human head with a large nose facing a crescent shape (a moon?). Like the previous can, the precise function of this modified can is not understood.

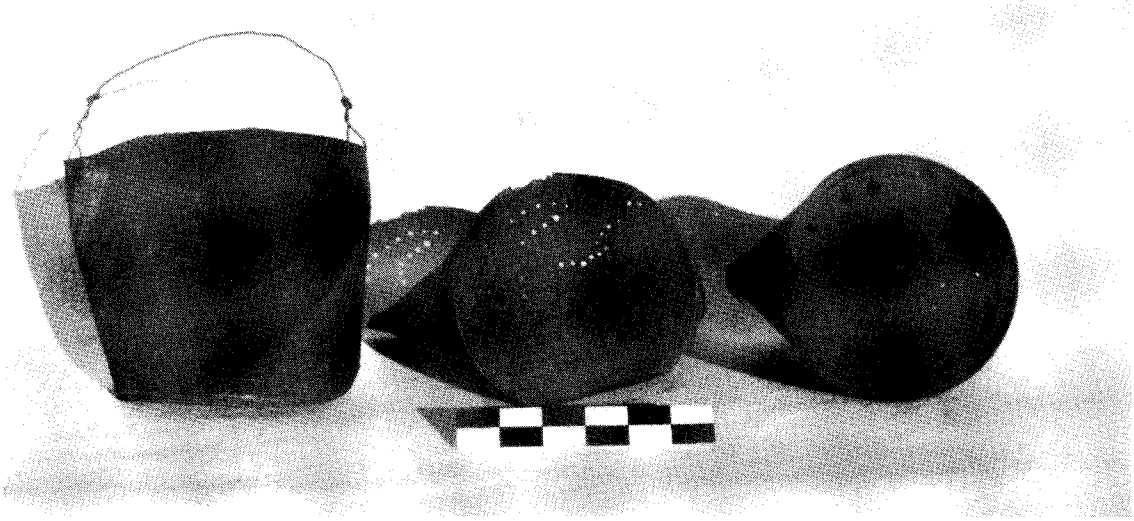

Fig. No. 21. Reused tin cans. Left to right: type A evaporated milk can modified to serve as a bucket; type B can with holes punched into the base in the outline of a man with a large nose facing a crescent (moon?) shape; type b can with various holes punched through the base. The larger holes may be bullet holes.

A large rectangular can was located nearby the L4/Feature 2b refuse deposit. It was badly crushed but appears to have been about 12" high by 8 1/2" square. It was probably a large vegetable oil can with a solder attached spout. The bottom of this tin can has a square hole cut into it to facilitate some secondary purpose. Nails and nail holes along the edge of the bottom indicate that the can was attached to something on at least three sides with the bottom and the square hole facing up. It appears to have been reused as a receptacle of some kind.

Finally, an end portion of a bed frame, a 3' steel angle bar with holes for springs, has had a clevis attached by heavy wire and a large bolt (261-315-236). This item appears to have been used as some sort of makeshift hitch. It was located in Locus 4. No other artifacts were associated with it.

OBSIDIAN

Two obsidian cores and a single flake were recovered in Locus No. 4. No other materials were noted to suggest any prehistoric occupation or use of the site. It is believed that the presence of these obsidian artifacts at Tate Creek are a result of historic activity. Perhaps the obsidian was collected from nearby sources or from some other prehistoric site for its perceived aesthetic value in much the same way people collect such materials today. The cores are of a relatively large size. The artifacts are described below.

261-315-33: Collected during the surface collection, this core was resting on the surface of the loci near an old skid rut. It is an exhausted multidirectional core approximately fist size. The core shows signs of recent fracturing, as if something had been repeatedly struck against it or it had been thrown at something hard.

261-315-141: This core is similar to the above in terms of size and shape. This is also an exhausted multidirectional core of black obsidian. This core had a portion of the cortex surface remaining. It was located on the surface of L4/Flat b. It also showed signs of being recently struck.

261-315-144: This is a small obsidian flake that was located immediately adjacent to the above mentioned core in L4/Flat b. It did not fit into any of the flake scars on the core.

CHAPTER 5

CONCLUSIONS

The archaeology of the Tate Creek Logging Camp has been partially successful in addressing the research design as defined in Chapter 1. The success is due, for the most part, to the remarkably undisturbed nature of the site. There was considerable success in reconstructing the general camp layout. The temporal placement of the site is also considered to be very well defined, however, the attempt to observe evidence of status variation based on ethnicity or management/employee differences in the archeological record was not completely successful. The following discussion will first address general questions regarding camp design and function as well as the period of occupation. Then, the research questions as presented in Chapter 1 will be covered.

CAMP LAYOUT

Although all logging camps are temporary by definition, the Tate Creek camp gives the impression of being designed for a very limited occupation for a camp of this size. The first suggestion of this comes from the apparent design of the railroad grade. As discussed in Chapter 2, using the natural stream course as a grade cut would result in a grade that could not be expected to endure more than a few seasons at the most. Annual flood waters would quickly undermine wood supports and wash out any constructed earth works. The grade would have been rapidly constructed. Some areas adjacent to the grade may have been logged as soon as it became accessible. Logging along the lower portion of the Tate Creek branch of Spur 2 did take place prior to the establishment of the camp. The evidence for this comes from the fact that a donkey landing was located within Locus No. 4 prior to the establishment of the camp. Later camp alterations and stream erosion have apparently obscured the precise location of the landing, but judging from the angle of the deep skid ruts in Locus 4 it was located adjacent to the creek. Thus, it appears that when the temporary grade was pushed further up into the Tate Creek drainage and the grade prepared to switchback up along the ridges, the Tate Creek Camp was established. The camp was most likely meant to serve a single season, or at the most two seasons, while these ridges were being logged.

Further evidence for the temporary nature of this camp is the exclusive, or nearly exclusive, use of tents. Tents are obviously temporary in nature and can be erected or removed with greater ease and speed than a skid shack. No direct evidence was noted indicating the presence of any skid shacks, however, for the short duration of this camp, the presence of a skid shack would leave little evidence had the shack been removed when the camp was abandoned. All but one of the wooden tent floors investigated were located in place which suggests that they were most likely judged to be at the end of their service life. It is quite possible that these floors were among those counted within the existing 1914 inventory (McCloud River Lumber Company Inventory Ledger, 1912 - 1914). It may also be that the use of tents in logging camps was gradually being phased out. Thus, the floors may have been abandoned due to their age and/or possibly due to their becoming increasingly obsolete.

The spatial arrangement of the camp, or the camp layout, can now be reconstructed with a relatively high degree of certainty (Map. No. 3), and the various functions certain areas, or loci, served can also be reconstructed. This was accomplished by observing the frequencies of artifact types in each given loci and also by the exposure of selected structural remains; namely, the tent flats (Table No. 17). Locus No. 1 is defined as being entirely residential. The orientation of the tent flats indicate that they all faced south or southwest and downslope toward the creek (and railroad grade) and toward Locus No. 4. Personal related artifacts recovered from the investigated tent flats accounted for 60% of the total identified artifact assemblage found in association with these flats. The Locus No. 2 structural flats were also firmly identified as residential tent flats. Locus No. 2 exhibited an even higher percentage of artifacts identified within the personal group (80%) than Locus No. 1. Locus No. 1 and No. 2 exhibited the majority of the residential tent flats located at the site.

Locus No. 3 represents the primary kitchen refuse dump. Three other dumps were located within Locus No. 4 (Feature 1, Feature 2a and 2b) but these were much smaller in area and density. Locus No. 3 exhibited other scattered materials in addition to the refuse deposit, but after an intensive survey of the area, no direct evidence of any structures was noted. The presence of a bathtub and a nearby length of water pipe suggests the possible location of a bath house in the vicinity but it is doubtful that it would have been located anywhere very close to the refuse deposit.

Functional Classification	Locus No. 1	Locus No. 2	Locus No. 4
Group A, Kitchen	12%	9%	14%
Group B, Personal	60%	80%	64%
Group C, Architectural	20%	7%	7%
Group D, Industrial	7%	3%	14%

Table No. 17, Artifact group frequencies from the investigated residential tent flats within Locus No. 1, 2 and 4 (not including L4/Flat b.

Locus No. 4 certainly represents the camp center. The two 12' x 14' tent flats located within this locus (flats a and c) exhibited far less associated refuse than the tent flats in Locus No. 1 or 2. Even so, the percentage of artifacts identified within the personal group accounted for 64% of the artifacts associated with these two flats. These flats may have been occupied on a more temporary basis than the flats across the creek, or the disposal patterns of the individuals staying in the Locus 4 tent flats may have been different. The presence of large amounts of kitchen related materials within and adjacent to Structural Flat b in Locus 4 strongly suggests the former location of the cookhouse and dining facilities. The flat exhibited 63% kitchen related artifacts with only 20% being categorized within the personal group. The location of the flat at the end and directly along side of the camp spur also lends weight to the conclusion that this area was the kitchen/dinning location. It is possible that the kitchen may have been located at the terminus of the sub-spur in the form of a kitchen/commissary car known to have been used by the company during this general time period (Hanft 1971:65). The large flat may well have been used as a tent covered dining area. During the investigation of this flat the remains of a smaller 12' x 14' tent floor was located within the 50' x 25' flat. This is the area where incoming supplies of all types would have been offloaded. It is believed that camp management would most likely have resided in Locus No. 4 and that this locus can be considered to have been the camp center, both logistically and socially.

Locus No. 5 was identified as not actually being part of the camp itself. Rather, it was an industrially orientated locus including the former location of a steam donkey. It may be that, due to its proximity to the camp, this location exhibited a greater than average amount of non-industrially related artifacts than would have normally been the case. A few scattered items such as food container tin cans and a broken whiskey bottle were noted within and adjacent to this locus.

It is believed that each 12' x 14' tent structure could have easily held three steel framed 3' x 6' beds (one was located in Locus No. 1) and a small sheet metal heating stove. Sufficient room would remain for two or three small chairs and a couple of small trunks or cases for clothing and a few other personal possessions. The heating stoves were all apparently located in the front left corner of the tent (facing the front). This was evident due to charring in this location on floorboards within at least two of the investigated tent flats. Also, the Camp 5 photograph (Fig. No. 3, Chapter 3), believed to be a historic photograph of the Locus No. 1 tents, shows stove pipe emerging at this same corner from all of the visible tent structures. In the historic photograph a small pole was located in front of some of the tents to help support the stove pipe. If it is assumed that each tent held three workers and one stove, and that all structures were being occupied simultaneously, then a rough estimate of the camp population can be made. A total number of 48 workers could have stayed within the 16 residential tent flats in Locus No. 1 and Locus No. 2. This does not include the three tent flats located within the camp center (Locus No. 4). As previously discussed, these may have been used by camp cooks, managers or other specialized camp workers.

OCCUPATIONAL SEQUENCE

There is evidence of at least two, and possibly three, different temporal phases of camp occupation. These temporal phases are suggested by variations in refuse disposal patterns and refuse content within the different deposits at the camp, as well as some anomalies regarding the location of some of the tent floors. The presence of a standard tent floor located on the larger artificial flat in Locus No. 4 suggests some possible alterations in the camp layout. This flat (L4/Structural Flat b) was certainly created to serve a larger structure (or use) than the placement of a standard size 12' x 14' residential tent. Also, if this is the kitchen or dining area, as indicated, then a small tent would have been very inadequate as a kitchen or a dining facility serving some 50 or more individuals. This tent flat rests within the larger flat in an orientation which excludes the possibility of any additional structures being located adjacent to it (see Map No. 7). An alternative explanation is that this smaller tent floor was located on the

flat after a larger structure had been removed. No sign of any structural remains that would be associated with a skid shack or larger tent flat was noted. It could be, as mentioned previously, that the kitchen was located on a railroad car constructed for just such a purpose and that the flat served as the foundation for a large dining tent.

Evidence of different temporal phases is suggested primarily from the refuse deposits. It is believed that the large kitchen deposit in Locus No. 3 was created when the camp was originally established and used during what may be termed as the camp's primary period of occupation. This deposit is located about 300' north and across the creek from the camp center. This refuse was most likely hauled out of camp by the kitchen crew and piled on top of the ground surface rather than buried as it was in some other camps of this time period (Vaughan 1985b). Also, this refuse was entirely kitchen related indicating that general camp refuse was not being transported out of camp. The kitchen related tin can refuse noted in this deposit accounted for 79% of all kitchen related tin cans inventoried within all four refuse deposits. A very high percentage of the cans noted within this deposit were of large capacity design such as the type A evaporated milk cans and the type B vegetable container tins. Thus, the deposit appears to represent food preparation on a relatively large scale for what may have been all, or at least a good portion of, a working season.

Two other small refuse deposits (L4/Feature 2a and 2b) are located closer to the camp center and contain much less material. What is there is similar in content to the deposit in Locus No. 3 consisting of a high percentage of large capacity cans. Unlike the Locus 3 deposit, however, these deposits exhibited a small amount of personally related artifacts like medicine bottles and upright tobacco tins. This is most likely a function of these deposits being in closer proximity to the camp center. There were alterations, however, in disposal patterns and subtle changes in refuse content. For example: 1) sardine can sub-types were of a unique design for each separate deposit, 2) common plates with the maker's mark "MERCER" were located within the Locus No. 3 Refuse Deposit while the common ceramic dishes exhibited the maker's mark "H.R. WYLLIE", suggesting a different table setting, and 3) the presence of numerous embossed "SANITARY" cans (type I) within the smaller L2/Feature 2a and 2b refuse deposits and the same size and design can without the embossed name found in the Locus 3 deposit. These variations suggest a temporal gap and/or possible alterations in camp supply and perhaps, in camp organization.

An additional refuse deposit is even more unique. Feature No. 1 in Locus No. 4 consists of a pit and a small concentrated deposit of kitchen refuse along with some personal and industrial

related artifacts located partially buried at the bottom of the hole. The refuse exhibited a much different variety of food container cans than was noted in the other deposits. Food container cans consisted primarily of standard and small sized tins along with only a few of the larger type A or type B cans more common in the other refuse deposits. Several cans recovered from this deposit were legible and a unique assortment of specialty food item cans including French mushrooms and Italian pasta were recovered. An Italian tomato paste can with the date 1924 included in the general lithography was noted. Also noted were the presence of canned goods of a type which were normally supplied to logging camps in bulk quantities. These items included coffee (in 1 lb. cans), canned butter (in 1 lb. cans) and canned corn (in standard size sanitary cans). A portion of the skeletonized remains of a deer kill were recovered in this deposit but the refuse held enough material in common with the rest of the camp to rule out any kind of later "hunters camp" deposit. Several can types were common to the other deposits at the site. Also noted within the deposit were silverware and a juice glass that matched the design of others found elsewhere at the site. These artifacts were thoroughly mixed with the more unique can types. Thus, it can be stated with little doubt that the deposit is representative of company activities, however, only a few individuals were occupying the camp during this period. These people were almost certainly cooking, and possibly supplying, food for themselves. Vaughan (1985a:104-105) mentions the presence of small can dumps along the LaMoine railroad logging system consisting of "..numerous sardine cans and individual size meat tins". These were created by preliminary survey or grade construction crews. Some of these crews on the LaMoine system had cooks, but it is believed that many had to do without one, fending for themselves on canned goods and whatever game they could obtain by hunting.

Rather than representing any kind of preliminary occupation, it is believed that the small L4/Feature 1 refuse deposit at Tate Creek is representative of the final occupation of the camp. This final occupation was probably associated with the removal of the track after logging in the Tate Creek vicinity had been completed. The pit shows signs of being used as part of a structure at one time in that numerous decayed boards were noted in place across the western end. The pit is located immediately adjacent to a tent flat. It does not seem logical that a garbage pit would have been placed so closely to the camp center and right by a residential tent structure. It may be that the feature served as a sort of food storage area or "root cellar" during the primary period of occupation when the camp was supporting a relatively large number of workers. Only later would the already existing pit have been used as a convenient refuse disposal area for a small group of individuals staying at the camp for a short period of time. The date on one can (1924)

suggests that this activity may have occurred up to two years after logging operations had actually ceased. It should be further noted that a locomotive would not have been necessary for track removal. The company owned several light weight gasoline powered engines that would have been ideal for this type of activity.

By examining this evidence, it is believed that the Tate Creek site was originally established as a full scale logging camp supporting approximately 50 loggers with a number of additional support and management personnel. Some facilities, however, were apparently not established that were often found in other full sized camps. For example, among the available camp structures listed in the 1914 inventory is a "saw filing house". The common occurrence of saw files within the residential tent flats in Locus No. 1 and 2 suggests that the loggers were caring for their equipment in the vicinity of their own residences. Also, the fact that the camp was apparently made up entirely of tent residences suggests that the camp was probably not meant to last more than a single season. Yet, variation in refuse content and disposal patterns suggests the distinct possibility of a temporal break during camp occupation. One possibility is, that for whatever reason, the ridges were not completely logged prior to the end of the season and winter snowfall. The season may have ended earlier than expected. It could be that another crew, perhaps fewer in number, was sent back during the subsequent season to complete logging in the Tate Creek area. There is no direct evidence to support the conclusion that there was a smaller crew and it is considered to be just as possible that a full size crew was sent back to complete logging operations in the area, a job that may have lasted only a short period of time. Yet, because of the impending abandonment of the camp, kitchen refuse from this second occupational phase may have been transported only a short distance and dumped. This alteration of disposal pattern could also be representative of less formalized discipline being exercised within the camp or a kind of "short timer's" attitude among camp personnel. Evidence from White's dendrochronological study indicates an occupational span of about two seasons (Appendix No. 1). Based upon the archaeological evidence and on what is known regarding the general railroad logging history in the area, there is no reason to believe that the camp would have been maintained any longer than this.

Finally, and somewhat more certain, after the completion of logging operations a small scale camp was re-established, most likely to serve individuals who were pulling up the tracks. This occurred up to two years after logging operations had ceased. Why the company would wait so long to accomplish this task is unknown. It was during this latest phase of camp operations that a small tent structure may have been sufficient for use as a cooking/dining facility on the large flat in Locus 4. Individuals would have been preparing food for themselves and

were most likely making their own choices regarding what foods to import into the camp (i.e. French mushrooms and Italian pasta). Only during this phase is there any hint of specific ethnicity represented within the archaeological record. Italian pasta and tomato paste cans obviously suggest Italians as part the track salvage crew; however, this evidence consists of only three legible cans and may well represent the selection of a single individual.

The dendrochronology of the Tate Creek site and the surrounding area (see Appendix No. 1) suggests the following temporal sequence: The eastern branch of Spur 2 was most likely surveyed in 1917 or 1918 and the grade constructed in 1919 or 1920. The study indicates that the camp area was logged over in the early part of the season in 1921 and the camp established immediately after that. The data also suggests a second season of occupation in 1922. Grade abandonment is thought to have occurred "as early as 1926, and possibly earlier" (Appendix No. 1, page 3). Obviously, the grade would not have been used after logging operations ceased and rails and ties would have been removed soon after. Trestles, abutments and supports would have been left in place due to the inherent difficulty in reusing such features. As mentioned in Chapter 2, one informant remembers proceeding up Tate Creek by car in the 1920s and crossing numerous intact trestles until, as time went by, they were washed out by flooding. Archaeological evidence appears to correlate well with the temporal estimates generated by White in the dendrochronological study. Based upon the archaeological evidence noted at the site, the occupational period of the camp would be placed slightly earlier (1919-1920) due primarily to the presence of numerous liquor bottles located within the camp boundaries (as per Rock 1986:66). Once Prohibition was initiated on January 1st, 1920, the lumber company would have certainly outlawed consumption of such beverages by its employees. But overall, the artifacts recovered and analyzed from the Tate Creek site conclusively support a temporal assignment of primary site occupation from about 1919 to about 1922 and a subsequent, smaller camp occupation occurring sometime around 1924.

SOCIO-CULTURAL

No real ethnicity markers were recognized within the Tate Creek Camp, although, as just discussed, several unique food containers were noted within the Locus 4, Feature No. 1 refuse deposit. Unlike the two other McCloud Lumber Company sites previously investigated by Vaughan (1985b), a great deal of personal items were found at the Tate Creek Camp, however, as Vaughan concluded, the items themselves hold little information regarding the ethnic affiliation of these workers. If the camp population was made up primarily of a single ethnic group it would most likely have been Italians (see Hanft 1971:180).

It is possible that the entire residential portion of the camp contained a kind of "lower status" ethnic working population and thus, no variation would be observable in the archaeological record. To test this possibility it would be necessary to examine other undisturbed camps from the same period and compare artifact assemblages. The historic photograph of Locus No. 1 and the caption reading "Poverty Row" is more suggestive of a low economic status than any of the artifacts located at this site. The modification and use of numerous tin cans for other functions provides a hint of the possible difficulty in obtaining needed items but such a relationship remains unclear. The general uniformity of the kitchen refuse from the major deposits generally support the concept of company standardization and control. It is possible that the mere location of the residential portion of camp across the creek (and across the railroad grade) served as a form of spatial segregation between camp management and camp specialists residing within the camp center and the timber workers located in the eastern portion of the camp.

Other socio-cultural questions proposed in the research design can be better answered. The artifact assemblage does appear to indicate that this camp was a "stag" camp. This conclusion is based on the complete absence of artifacts that would suggest the presence of women. Data obtained from informants regarding women within LaMoine camps point to a considerable presence of females in the role of cooks as well as family members, but archaeological evidence for their presence, though present, was rather scarce (Vaughan 1985a:105). The presence of women was not indicated at either of the two McCloud River Lumber Company camps that have previously been archaeologically investigated (Vaughan 1985b:72). It is known that the Chippy Spur site had at least one female occupant for a period of time (Hanft 1971:195) and being a major camp of the period (mid-1920s) it may have had more. The Tate Creek Camp was smaller and more transitory than the Chippy Spur camp. Because of this and because of the complete absence of any physical evidence (especially considering the quantity of personal items recovered) it is believed that there were no women working or residing within the Tate Creek camp.

Evidence indicates that the workers were certainly well supplied with medicines. The large quantity of small personal sized medicine bottles within and adjacent to various tent flats suggests that the workers were generally caring for themselves when it came to minor medical problems. It also suggests that there may have been a commissary present on the site. If so, it was most likely present in the form of the previously mentioned kitchen/commissary car parked on the camp sub-spur. The workers were well supplied with products like "Mentholatum," "Vaseline," and "Vicks" rubbing ointments. They were also supplied with the means to care for their own personal goods and tools (e.g. shoe oil/waterproofing compounds and saw files).

Whiskey and beer bottles located inside the camp indicates that alcohol was being consumed. No liquor bottles were located directly within any of the refuse deposits. Several broken liquor bottles were located on the surface of the site. One complete, but broken, whiskey bottle was located adjacent to a tent flat in Locus No. 1, while three other fragmented whiskey bottle bases were found on the surface of Locus No. 4, and one base was found on the surface of Locus No. 5. All were found above the duff layer and thus their original point of deposition is not positive. The lack of any alcohol containers located within any of the refuse deposits, and the whiskey bottles found in place under and just behind L2/F1/Flat d, suggests that alcohol consumption in camp might not have been allowed, at least not officially. The corked bottle stashed behind the tent flat with the other empties suggests an effort by at least one worker to conceal drinking activity. There can be little doubt that liquor was being consumed within the tent itself.

Whether or not alcohol consumption was allowed by lumber company policy is not known. If the camp was occupied between 1920 and 1922, as suggested by the dendrochronological studies conducted at the site (Appendix No. 1), then the period would have fallen under the era of Prohibition, instituted in 1920. Company policy would not have contradicted federal law so alcohol consumption, if allowed previously, would certainly have not been allowed after January 1920.

Evidence of alcohol consumption has been observed at other railroad logging camps in Northern California. Some fragmented liquor and beer bottle glass was noted within the materials recovered at the M.A. Burns - Castle Crags Lumber Company campsite investigated by Baker and Shoup (1979:53). The camp was dated sometime between 1910 and 1920 (1979:17,70). Liquor bottles were also present at all five of the LaMoine Lumber Company camps (Vaughan 1985a:108). These sites are known to date between 1904 and 1911. The two McCloud Lumber Company sites (Vaughan 1985b) dating to the 1920s exhibited no evidence of alcohol consumption. Rock (1986:66) observes a clear difference between pre-prohibition camps and post-prohibition camps on the Weed Lumber Company railroad logging system by the presence and absence of liquor bottles within camp refuse deposits.

It may be that the liquor bottles at Tate Creek represent a transitional behavior form when Prohibition was first initiated. Supplies of alcohol may have still been available, albeit illegally, to camp workers but, its presence in camp was not officially acceptable. Thus, the archaeological evidence of illicit drinking activity is either found outside of camp, or concealed within the camp itself and no liquor bottles would be located within the general camp refuse deposits.

Finally, although not anticipated in the original research design, the undisturbed nature of the site allowed for the recognition of a distinct refuse disposal pattern within the camp. Archaeological evidence indicates that kitchen refuse was typically transported outside of the camp boundaries. No such effort was made in the general accumulation of residential refuse. The remains of garbage cans and garbage can lids were noted only in association with the kitchen/dinning area in Locus No. 4 and in the kitchen refuse deposit in Locus No. 3. Residential refuse, most of it being categorized within the personal group, was observed scattered throughout those portions of the site containing structural remains (Locus No. 1, Locus No. 2 and Locus No. 4). During the investigation of the residential tent flats it was noted that the majority of the refuse associated with each was located toward the rear and just behind the tent flats. This was obviously a result of the workers tendency to throw refuse out the back of the tent. Much of this material consisted of upright tobacco tins and small medicine bottles. In hindsight, more of the area behind and above the tent flats should probably have been exposed to more thoroughly document this interesting disposal pattern.

TECHNOLOGY

The design and construction of the railroad grade represents both a primary technological factor as well as a primary economic factor. The grade was engineered to be as cost effective as possible. Thus, in the case of the Tate Creek Branch, the builders chose to follow the actual stream course up the canyon to the point where spurs would switchback up on to the ridges to the east and west of the drainage. This type of grade design was not uncommon (Adams nd:41, Labbe and Goe 1961:30, 73) as it saved the expense of unnecessary cut and fill. It was the most inexpensive means of constructing grade through such severe country, however, maintenance costs would have been high after the first season when increased water flow would begin to erode grade supports.

During the early 1900s Douglas fir was plentiful in the area and had a relatively low market value (Tamez et al. 1988:11). Douglas fir could have been cut and immediately used in simple trestles or grade supports where and as needed, which may account for a higher than usual percentage of Douglas fir stumps noted within the general area (Julie Krieger 1989: personal communication). The company seems to have been logging, at least to some extent, as they built the grade; to obtain an immediate supply of lumber for the grade supports. The one feature noted in Locus No. 2 that may have been part of a trestle or log support was determined to be made of Douglas fir (Appendix No. 1). Apparently, it was more common for the McCloud River Company to complete a logging spur prior to the initiation of logging operations in a given area (Gerald Hoertling 1989: personal communication). The need for log grade supports, however, may

have motivated the company to begin harvesting timber prior to the completion of the logging spur. The Spur 2 grade, at least the portion extending into the Tate Creek drainage area, appears to be a classic example of a logging railroad grade being constructed very rapidly, to be used for a very limited period of time and then immediately abandoned when operations were completed, thereby incurring as little expense to the company as possible.

In terms of the general logging technology used in the area during this period, it appears that operations were entirely mechanized. Only the gear driven Shay locomotives owned by the company from 1911 to 1924 (Hanft 1971:48) could have operated successfully in this terrain. No evidence of the use of horses was noted within or near the Tate Creek Logging Camp. The relative severity of the terrain would seem to rule out the economical use of horses anyway. Evidence for the use of steam donkeys was abundant. Skid ruts could be faintly seen around the site, especially to the east where the rise from the creek bed was not quite as abrupt. These were not specifically mapped in or further investigated as the general pattern of log skids can be seen on 1944 aerial photographs as well as on the undated McCloud River Lumber Company Railroad right of way map. These images show a general fan shaped skidding pattern extending upslope from a given steam donkey landing. Logs were apparently skidded downhill directly to the steam donkey where they could be loaded on to flat cars for the trip to the mill. There was no evidence of any kind of high lead log transport system being used within the general area.

ECONOMICS

During the general period of occupation at the Tate Creek Camp (1919-1922), the market for lumber was quite strong (Shoup 1981:59, 63, Supernowicz: 1986:8). World War I created an expanded domestic and foreign market for lumber and lumber products, and the logging operations in the northwestern United States responded with increased production. This boom lasted from 1914 until the early 1920s. The McCloud River Lumber Company responded to this expanding market. The Tate Creek entry was planned while the war in Europe was being waged and the general economic outlook for timber production was very positive. Precisely why this drainage was chosen can only be addressed through speculation. What is known is that the company had the Shay locomotives available for use in such terrain during this period. The drainages south of the McCloud River had not yet experienced large scale logging operations, so the amount of old growth or virgin timber was probably extensive. It may be that the company was already planning to eventually sell the Shays and wanted to tap into some of the more severe, but rich, forest lands while they still could.

The McCloud River Lumber Company was an expanding and diversifying, large scale lumber company which undoubtedly sought to most economically utilize its existing resources to access what was largely an untouched source of high quality timber. These entries into the steep country south of the McCloud River mark one of the comparatively few times that the company ventured into such severe terrain (Gerald Hoertling 1989: personal communication). As land became available in the 1920s, the company concentrated on expanding east toward relatively gentle terrain and vast stands of easily reached timber. The fact that they sold the only two geared locomotives they had in 1924 indicates that the company managers had, by that time, set their long range goals in the more easily accessible lands further east.

ENVIRONMENT

It has been well documented that environmental conservation was not a primary concern for a typical lumber company during the early 20th century (Rock 1985:7-8, Shoup 1981:36-37, Supernowicz 1986:5). The most common form of timber harvesting was clearcutting and log transport by skidder and cable which was generally a very destructive process. The 1944 aerial photographs maintained by the McCloud Ranger District show many of the ridges near Tate Creek devoid of mature timber. It seems likely that such clearcutting strategies were used during the McCloud River Lumber Company's operations in the area; however, a great deal of logging has occurred in the area during the last 30 years which might serve to mask the earlier environmental effects of the McCloud operations. In the area of the camp, some timber was harvested during the McCloud entry, both Douglas fir and Ponderosa pine, but some old growth was left as well. It must be remembered that the evidence indicates that the area around the camp was harvested prior to the establishment of the camp itself. In addition, during an inspection of railroad grade along the western ridge above the creek within the same Forest Service parcel where the camp is located, several old growth ponderosa pines were noted. These trees would have represented a high market value during the period of time that early logging operations were occurring and they did not exhibit any cable scars that would indicate their utilization during logging operations. Because the areas all around the parcel have been more recently logged it is not easy to tell if this represents a selective cutting strategy during the McCloud operations or if these trees were left for some other reason.

SUMMARY

Temporary railroad logging camp function and design primarily reflect the economic factors of the time, technology available to the controlling company and any environmental constraints exhibited by the area to be exploited. In the case of the Tate Creek camp, economic expansion and the availability of specific technology enabled the company to extend its logging spurs into the steep country south of the McCloud River. Ten years prior to this time, the company lacked the technology (namely, the Shays) to efficiently exploit this area, although it may be that they were not economically motivated at that time to do so. The company had an impressive amount of rolling stock during the 1910s, and they were logging in the more gentle land just north of the McCloud River. No doubt they were aware of the untapped stands of timber south of the river, but the company was already expanding into vast tracts of timberland to the north and east. Other smaller railroad logging operations in northern California were entering terrain that was much more severe than the Tate Creek area. It is likely that only with the expansion of the timber market and the availability of the Shays, purchased to initially work the Black Fox area (Hanft 1971:106), was it deemed economically feasible to exploit the area south of the McCloud River.

In comparing the Tate Creek Logging Camp to the other two McCloud River Company sites that have been archaeologically investigated (Vaughan 1985b), some similarities and some differences become apparent. In comparing the Tate Creek site to Chippy Spur, Chippy Spur was larger in terms of camp size and population and was located along the mainline grade of the McCloud River Railroad at an intersection with an extensive spur system. Differences can be seen in the relative size of the camps spatially and in terms of the quantity of the kitchen refuse (2385 tin cans inventoried from four distinct refuse deposits at Chippy Spur compared to 1291 tin cans inventoried in the four deposits at Tate Creek). At Chippy Spur, each kitchen deposit was associated with an excavated pit. Apparently, no pits were excavated specifically for refuse at Tate Creek but an existing pit (L4/Feature 1) was later used as a refuse pit during the final occupation of the camp and at least a portion of this refuse was buried. Kitchen refuse was transported out of both camps, however, at Tate Creek the smaller kitchen deposits are located closer to camp. The can inventories completed for both camps indicate that most of the same types of food container cans were being utilized at both camps. At Tate Creek, 91% of the total inventory matched can types identified at Chippy Spur. Out of 1291 cans inventoried at Tate Creek, 1170 matched identical samples located within the Chippy Spur inventory. At Chippy Spur, type A cans, large capacity evaporated milk cans, amounted to 20% of the total inventory and type B cans, considered to be

Can Types	Chippy Spur	TramRail	Tate Creek
A	20%	21%	7%
B	49%	55%	46%
E	5%	16%	28%
Total:	74%	92%	81%

Table No. 18. Percentages of the three most common food container can types at the three investigated McCloud River Company camps. Percentages for Chippy Spur and TramRail taken from Vaughan 1985b:55. Figures rounded to the nearest percent.

large capacity cans which held vegetables and other stables, amounted to 49% of the inventory (Table No. 18). At Tate Creek these two can types amounted to 7% and 46% of the total inventory respectively. Type E cans at Chippy Spur amounted to 5% while at Tate Creek these standard size evaporated milk cans amounted to 28%. Evaporated milk was being supplied more commonly in large size tins at Chippy Spur and more commonly in smaller tins at Tate Creek. This could indicate a larger camp population at Chippy Spur or merely the increasing availability of the larger containers through time.

Both camps appear to have had the kitchen and dining areas located close to a railroad spur, undoubtedly for ease of offloading supplies. This seems likely for the TramRail site as well. There was little or no evidence within the Chippy Spur site to indicate what types of structures were present. Chippy Spur was located in gentle terrain and there were few constraints as to how close or far apart residences might have been from one another or from the camp kitchen and commissary. At the Tate Creek site, available space was more restricted. As was the case at Tate Creek, medicine bottles did not generally occur with the kitchen refuse but were located in the area believed to be the residential portion of the camp.

The TramRail site is a smaller site than Tate Creek and most likely served as a construction camp (Vaughan 1985b:72-73). This camp would have supported crews engaged in the construction of railroad grade prior to logging operations. The site may have been inhabited by only a few individuals, but due to the quantity of kitchen refuse, it seems quite possible that there was a good

size kitchen here. Due to the lack of any personal items, other than a few upright tobacco tins, it seems very unlikely that more than a few individuals stayed here very long. As Vaughan suggests, it may have served to provide hot meals for construction workers who were not residing there (1985b:72). The site has been impacted by modern roads and little structural evidence remains.

In terms of kitchen refuse, these three sites are more alike than unlike. Chippy Spur and TramRail were both occupied sometime after Tate Creek, but not long after; perhaps the mid to late 1920s (Vaughan 1985b). Chippy Spur exhibited a greater percentage of machine made glass than Tate Creek and its lack of alcohol containers suggests an occupation after the initiation of Prohibition.

As with the investigation of the other two McCloud River Logging Camps, the Tate Creek site revealed much more data than initially anticipated. The undisturbed nature of the site and the location of tent floors in-situ created the opportunity to reconstruct the former camp layout and identify specific functional areas with greater accuracy than usual. Data obtained through this investigation allowed for the reconstruction of the sequence of occupation and the accurate dating of this occupation to within the span of a few years. Due to the quantity and quality of the data obtained, all phases of this project took more time than originally anticipated. Time and budget constraints inhibited a more thorough analysis and any immediate comparisons to railroad logging studies occurring outside northern California.

The Tate Creek camp was located on the last spot possible before the switchbacks so that it could serve logging operations along both ridges. The camp consisted primarily (if not exclusively) of tent structures and supported around 50 laborers. Archaeological and dendrochronological evidence support the conclusion that the camp was occupied for all or part of two seasons. Archaeological evidence also suggests that the camp may have been scaled down in terms of population prior to its abandonment, sometime in 1922. Finally, the camp was reoccupied sometime around 1924 by a small group of individuals associated with the company. This occupation was most likely related to the removal of the rails after logging operations had ceased. When the main camp was abandoned the tents were taken up but the wooden floors were left in place because they were considered to be worn out and/or obsolete.

The Tate Creek Logging Camp was a temporary facility in every sense. It, like the grade which passed through the camp, was made to be installed, used and removed quickly, easily and economically. It may be that the use of tent residences instead of skid shacks and the use of railroad car kitchens-commissaries was an adaptive camp design for use in steeper terrain. If so, other camps located south of the McCloud River should compare

closely with it as well as those associated with other entries into steep terrains between 1911 and 1924. While not all research questions were answered, this project has allowed for the most detailed look yet at a logging camp of the McCloud River Lumber Company and Railroad System. It is hoped that this study will serve well in future comparative research both within and outside the McCloud River Lumber Company railroad logging system.

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DENDROCHRONOLOGY OF THE TATE CREEK LOGGING CAMP NEAR McCLOUD, SISKIYOU COUNTY, CALIFORNIA

Lester O. White
September, 1989

INTRODUCTION

This report describes the dendrochronological analysis of wood specimens cut, and/or otherwise effected, by logging related activities, during the establishment and use of the Tate Creek Logging Campsite. It includes: a description of methods of analyses; specie identification of some lumber used in camp structures; and the findings and interpretations of the investigation. Comparative graphical plots of annual tree-ring growth values, including those illustrating the effects of human activities upon individual trees, supplement the text.

List of Tree Species and Abbreviations Referred to in Text:

Common Name	Scientific Name	Abbreviation
Douglass fir	Psuedotsuga menziesii	Df
Ponderosa pine	Pinus ponderosa	Pp
Jeffrey pine	Pinus jeffrii	Jp
Red fir	Abies magnifica	Rf
White fir	Abies concolor	Wf
Incense cedar	Libocedrus decurrens	Ic

METHODS

Tree-Ring Dating

Because most trees in moderate climates produce one (more or less distinct) radial growth-ring annually, the age of a tree, and in the case of a non-living tree, the year of its death, may be determined through analysis. The basic methods and techniques dendrochronologists follow to determine true tree ages have been described by Douglass (1941), Stokes and Smiley (1968), Fritts (1976), and others. The described methods were followed in this analysis where applicable. A second consideration in sites such as Tate Creek, where the wood specimens are subjected to various degrees of decay, including ablation of exterior xylem tissue, is the determination of the correct "cutting date" (year of death of the living tree). The deductive processes particular to this assessment for wood found in an archaeological context are described by Bannister (1968) and more recently by Dean (1978).

Master Chronologies and Control Samples

In its native setting a tree will exhibit annual ring growth rates closely paralleling the yearly vageries of temperature and precipitation (Fritts, 1976). Because weather patterns are generally consistent within a given macroclimatic zone the result will be that most trees in the area will exhibit generally similar ring-growth patterns. The synchronous nature of these patterns allows comparisons with master chronologies of trees from the same region. The comparison, taking into account any unique local factors which may effect either the site and/or individual trees, provides the opportunity to cross-date a particular annual ring to a specific year. The master chronologies referred to in this analysis are the nearby Stephens Pass fault collections and those from the Medicine Lake area (both in possession of author). These master chronologies were developed referencing appropriate series in Holmes, et. al. (1986) and contain well-replicated ring series of major tree specie found at Tate Creek -- where Douglass fir, Red fir, White fir Incense cedar and Ponderosa pine predominate.

Field Selection of Specimens

The goal of reconstructing the temporal history of the Tate Creek Site and the sequence of other logging related activities in the vicinity, required the collection be focused on retrieving specimens which related directly to: (1)The construction of the railroad track; (2)The logging of timber adjacent to (and on) the site and; (3)The occupancy and use of the terrain as the site of a temporary logging camp. These collected specimens include: hand samples of exterior sections of early logger-cut stumps; increment borer cores of both living and dead (snagged) trees which exhibit evidence of mechanical injury (scars); and cores of trees whose proximity to man-made structures resulted in abnormal ring-growth phenomena concurrent with the impact. In addition hand samples of lumber (primarily tent frame materials) were collected for purposes of specie identification. (Series WS collected by Dan Elliott).

Preparation of Specimens for Analysis

The methods for preparing dendrochronological specimens for analysis are discussed by Stokes and Smiley (1968) and were followed here. The transverse surface of the wood is analogous to the "end grain" in common one-quarter sawn lumber -- and it is in this plane that cell structural elements delineating annual radial growth (rings) and specie-specific attributes are found. The primary goal is to finish this surface as necessary to allow viewing of minute details of cell structure under low to moderate (10X to 50X) magnification -- leading to identification of specie, measurement of annual ring growth and the distinguishing of interannual ring characteristics which are year-specific. The goal was met by using common methods of wood finishing -- starting with No. 80 sandpaper followed by successively finer textures until an adequate surface was gained.

Age-Dating Analyses and Specie Identifications

The annual ring-growth values of specimens collected for age-dating were measured and subsequently plotted on common 10X10 cross-section paper with the calendric year and the annual growth representing the X and Y Axes' respectively. These plots were compared with the master tree-ring chronologies and dating confirmed through examination of each specimen's ring characteristics.

The specie of each wood sample was determined by comparison with hand specimens in the authors collection and supplemented by reference to the descriptive text and micro-photos in Pansin and de Zeeuw (1970).

As is true of Red fir and White fir, Ponderosa and Jeffrey pines often cross-pollinate, resulting in foliage and bark which may portray characteristics of both. In the case of the pines, whether there is outward evidence of cross-pollination or not, there are no differences in the color or morphology of the wood -- they may be distinguished only through chemical analysis (Pansin and de Zeeuw, 1970). Because the second growth pine local to Tate Creek appear (through only general observation) to be Ponderosa, and the pine stumps from historic era logging exhibit very stressed growth as would be expected if they were understory in a dominant fir forest (and thus more likely Ponderosa) I have labeled these as such. The lumber samples are similarly labeled, although a few exhibit ring-series which could be representative of the stands in the more substrate-stressed sites in the upper reaches of the McCloud Basin, where Jeffrey pine are also common.

FINDINGS AND INTERPRETATIONS

Summary Interpretation

Railroad location surveys appear to have been initiated in the vicinity of the Tate Creek Logging Camp in about the year 1917, and were on-going in 1918, and perhaps 1919.

Railroad track construction was likley underway locally in 1919 and completed no later than the fall of 1920.

Logging of the camp area trees took place in the spring, or early summer, of 1921.

Tate Creek Camp Structures were probably emplaced in the early summer of 1921, immediately after the logs were removed. Camp occupation and use continued for an unknown number of years after initial establishment. A termination date for occupation was not determined in this investigation, but direct evidence indicates on-going use in the year 1922.

Railroad track abandonment may have occurred as early as 1926, and possibly earlier. A bridge-support cable for the middle bridge remains intact on the trunk of a tree apparently downed by flooding in about 1927-29 and/or prior ongoing undermining of its root system -- which is first reflected in intra-annual ring phenomena in 1925 and 1926.

SUMMARY OF FINDINGS
WOOD SPECIES OF LUMBER USED IN CAMP STRUCTURES

Dendro. No.	Archeo. Locus	Archeo. Feature	Tent Flat	Nominal Dimension	Tree Specie	Remarks (See Note ( )
ID-01	#01	#01	"B"	2X12"	IC	SW Corner--E&W
ID-02	#01	#01	"B"	1.5X10"	IC	SW Corner--N&S
ID-03	#01	Privy	---	1.5X10"	IC	West wall
ID-04	#01	Privy	---	1.5X10"	IC	West wall
ID-05	#01	#01	"C"	2X4"	IC	SW Corner--E&W
ID-06	#01	#01	"C"	1.5X10"	IC	T.P.- Front Ctr.
ID-07	#01	#02	"A"	2X4"	IC	ex-situ
ID-08	---	---	---	---	--	No Sample
ID-09	#01	#02	"B"	1X10"	Sp	SW Corner--N&S
ID-10	#01	#02	"B"	1.5X10"	IC	South wall--E&W
ID-11	#01	#02	"B"	6X8"X6'	Sp	Near " "
ID-12	#01	#04	"C"	1X4"	Df	ex-situ,at front
ID-13	#01	#04	"A"	2X2"	Pp	ex-situ--So.Wall
ID-14	#01	#03	"A"	1X8"	Pp	Atached hinge
ID-15	#01	#03	"A"	1X8"	Pp	ex-situ-So. wall
ID-16	#05	---	---	1X6"	Sp	In Railroad Bed
ID-17	#04	#02	"B"	2X10"	IC	Garbage Pit (1)
ID-18	#04	---	---	2X12"	IC	Kitchen Area (2)
ID-19	#04	#03	"C"	1X4"	Pp	West Wall
ID-20	#04	#03	"C"	2X4"	IC	West Wall
ID-21	#02	---	---	-?-	Df	Bridge Tmbr (3)
WS-01	#01	#04	"A"	2X4"	?	Joist (4)
WS-02	#01	#04	"A"	-?-	Df	Floor board (4)
WS-03	#01	#04	"A"	2X12"	Pp	Siding (4)
WS-04	-?-	#02	"A"	-?-	Df	Tongue/Grve (4)

Remarks

(1) ID-17 was collected from a loose stack of remnant lumber at the garbage pit (Feature B, Locus 4) after archaeological excavation and the exact context is unknown to this author.

(2) ID-19 was collected, apparently ex-situ, easterly of the garbage pit about 30 ft. where other lumber of the same general dimension is strewn about.

(3) ID-21 is a remnant bridge timber collected from a point on the Bank of Tate Creek a few feet downstream of the middle bridgesite.

(4) The WS identification series labeled and described by Dan Elliott -- see archaeological report where appropriate.

SUMMARY OF FINDINGS FOR
TRAUMATIC INJURY PHENOMENA AND AGE-DATES OF COLLECTED SPECIMENS

Dendro. No.	Wood Specie	Specimen Description	Related Event or Feature	Event Date	See Remarks
TLC-01	Df	Living tree	Railroad survey	1917-18	(1)
TLC-02	Df	Living tree	Camp occupation	1926	(2)
TLC-03	Sp	Living tree	Logging	1921	(3)
TLC-04	Df	Living tree	Railroad survey	1919	(1)
TLC-05	--	-No sample-	----------	---	---
TLC-06	IC	Loose Wood	Railroad	None	(4)
TLC-07	Sp	Stump	Logging	1922+	(5)
TLC-08	IC	Living tree	Railroad survey	1918	(1)
TLC-09	IC	Stump (live)	Railroad survey	1919	(1)(5)
TLC-10	Df	Stump	Logging	1921	(5)
TLC-11	Wf	Living	Camp occupation	None	(1)
TLC-12	Wf	Living	Camp occupation	None	(1)
TLC-13	Wf	Snag	Camp/Logging ?	None	(4)
TLC-14	Pp	Stump	Logging	1920	(5)
TLC-15	Pp	Stump	Logging	1920	(5)
TLC-16	Df	Stump	Logging	1920	(5)
TLC-17	--	-No sample-	----------	----	---
TLC-18	IC	Living tree	Railroad	1919	(1)
TLC-19	IC	Hewn lumber	Camp occupation	None	(4)
TLC-20	IC	Hewn sapling	Land survey (?)	1925+	(6)
TLC-21	Df	Stump	Logging	1921	(5)
TLC-22	IC	Stump (broken)	Natural	1927+-	(2)
TLC-23	IC	Living tree	Camp occupation	1921	(1)
TLC-24	Wf	Living tree	Camp occupation	1921	(1)
TLC-25	--	-No sample-	----------	---	---
TLC-26	Pp	Stump	Camp occupation	1922	(7)
TLC-27	IC	Rough timber	Railroad	None	(4)
TLC-28	IC	Sapling	Camp occupation	None	(4)
TLC-29	Df	Downed tree	Railroad	1927-9	(2)

Information concerning findings for the occurrence of historic era fires and the conventions of dendrochronology in listing and/or stating cutting dates is found in the "Discussion" section. The latter is particularly pertinent to the findings for the date of major logging at the site.

Remarks:

(1) Specimen numbers TLC-01, 04, 08, 11, 12, 18, 23, and 24 are increment borer cores of living trees, all of which are situated adjacent to the railroad location or within the general camp compound. These trees were sampled because they display the scars of traumatic injury, or were otherwise thought to be candidate trees whose annual-ring patterns would reveal responses to changes in growing conditions related to camp activity rather than natural factors. Each of these phenomena are potentially attributable to human cause -- and thus provide information on the date of occupation/use of the area. 01, 04 and 08 display within the listed year intra-ring phenomena connected with axe blazes interpreted to have been made by the railroad location engineers. TLC-11 and 12 are situated in context's which constrained the installation date of particular features. Both proved too young to be of value to the investigation. TLC- 18 is situated at the downstream abuttment of the middle bridgesite and its root system was disturbed in 1919 by the excavation for the structure -- after which it responded to the decrease in competition after the larger trees were logged. TLC-23 stands at the immediate edge of the refuse pit labeled Feature 2 in Locus 4. Subnormal growth of the 1921 ring and a sharper downturn below normal in 1922 are interpreted to result from a disruption of its root system when the pit was dug. In the following years the annual-ring growth is about three times the expected widths prior to the availability of nutrients introduced by garbage waste. TLC-24 is situated in Locus #1 a few feet south of the south wall of Tent Flat B. It supports a 3"X4"X8' horizontally oriented timber which has been interpreted as a "meat hang". The timber was affixed to the tree by means of a bench-cut which nearly severed the young tree. Although the scar is now healed and the evidence obscured it was probably likely wired and nailed. The intra-annual ring growth anomalies indicate the feature was emplaced in the year 1921.

(2) TLC-02, 22 and 29 are specimens which reflect age-dates of death or anomalous growth surges beginning a few years after other evidence (or lack thereof) indicates the camp was no longer in use. Lacking direct evidence to which cause may be attributed it is speculated that the growth surges result from a combination of logging release, flooding, and a rebound from the 1917-25 drought years when rainfall was much below normal. TLC-02 is situated in a heavy-use area of the compound and evidences stresed growth which may be due to surface soil campaction. TLC-22 is basal fragment (stump) of a small tree which appears to have been broken (killed) by a near-creekbank tree that fell when high-water uprooted it. TLC-29 is a downed tree (log) which is located just downstream of the middle bridgesite and served as a support for the bridge cable-ties. This tree was rooted on the long-standing slope of the stream as it existed before logging and railroad construction. It appears that the bridge impeded the normal flow during high-water, which subsequently undermined the trees root system causing it to fall in about the year 1929.

(3) TLC-03 is Sugar pine which is located adjacent to the linear troughs and disturbed ground interpreted to have been formed by logging cableways operated during the major logging period. In the year 1921 the tree sustained, near its base, an abrasive scar which is interpreted to have resulted from cable damage.

(4) No age-dates were obtained for specimens TLC-06, 13, 19, 27 and 28. TLC-06 is a loose piece of shattered wood recovered from the railroad bed near the southeasterly property corner. No cambial zone tissue was present and it is likely an interior portion of a large tree several hundred years in age. TLC-13 is a snag located within the camp compound. This tree was damaged by a fire in about 1874 and had its top broken out in approximately 1920. TLC-19 is a sample of a limb which was used in the construction of a Tent Flat within Feature 4, Locus 1. The specimen was axe-hewn to form the end of a roof joist. No cambial zone tissue was present and the exterior is fire scar tissue precluding cross-dating. TLC-27 is a fragment of roughly hewn and split timber found near the middle railroad bridgesite. Its form is not dimensioned and therefore it is considered to be an exterior (waste) section of a finished timber used in construction. Borer beetles destroyed the integrity of the sapwood layer and it could not be cross-dated. TLC-28 is a recently-dead Incense Cedar sapling located in the northwesterly section of Locus 4 in a small clearing. The soil appears compacted within the clearing and the sapling exhibits evidence of stress throughout its life. The annual-ring patterns are anomalous due to this stress and thus not amenable to cross-dating.

(5) TLC-07, 09, 10, 14, 15, 16, and 21 are remnant stumps from railroad era logging. All are located on the easterly slopes of Tate Creek and/or nearby the former railroad track. Typically the stumps are of old-growth timber ranging from about 36" to 48" in diameter. They were cut at an elevation of approximately 40" above the ground surface and undercuts vary around 6"-8". The collection is skewed to Ponderosa pine, Incense Cedar and Douglass fir because these specie are more resistant to decay than other specie in the stand. Red fir and White fir are well represented, but inasmuch as decay is more advanced they lack the integrity required to age-date. The event date for TLC-09, as shown in the summary, reflects root damage phenomena caused by railroad survey or construction activity in 1919. The tree was logged, however, in the early summer of 1921. The cambial zone is still active (living) on one aspect indicating a connecting root system with a nearby tree.

(6) TLC-20 is the remnant stump and rootwad of an axe-hewn, 8" diameter, Incense Cedar found ex-situ on the former railroad bed in the vicinity of the property marker at the Southest Corner. It was cut no earlier than 1925 and possibly several years later as no cambial zone tissue is present on the sample. Inasmuch as cutting appears to post-date the camp and logging era, and considering its proximity to the survey monument, it is speculated it may be related to some landline location effort.

(7) TLC-26 is the remains of a small Ponderosa pine sapling which was cut to accomodate the foundation timbers of the privy which once stood in the northerly portion of Locus 4. The annual ring for 1921 contains intra-ring discolorations indicating some disturbance in that year and in the following year (1922) the young tree was cut. The 1921 trauma may be related either to the logging of that year, in that the tree stood near the cableway, or to the privy installation. An alternative interpretation is that the privy dates from 1921 and the sapling was removed for some convenience in 1922.

DISCUSSION

Determinations of Cutting Dates

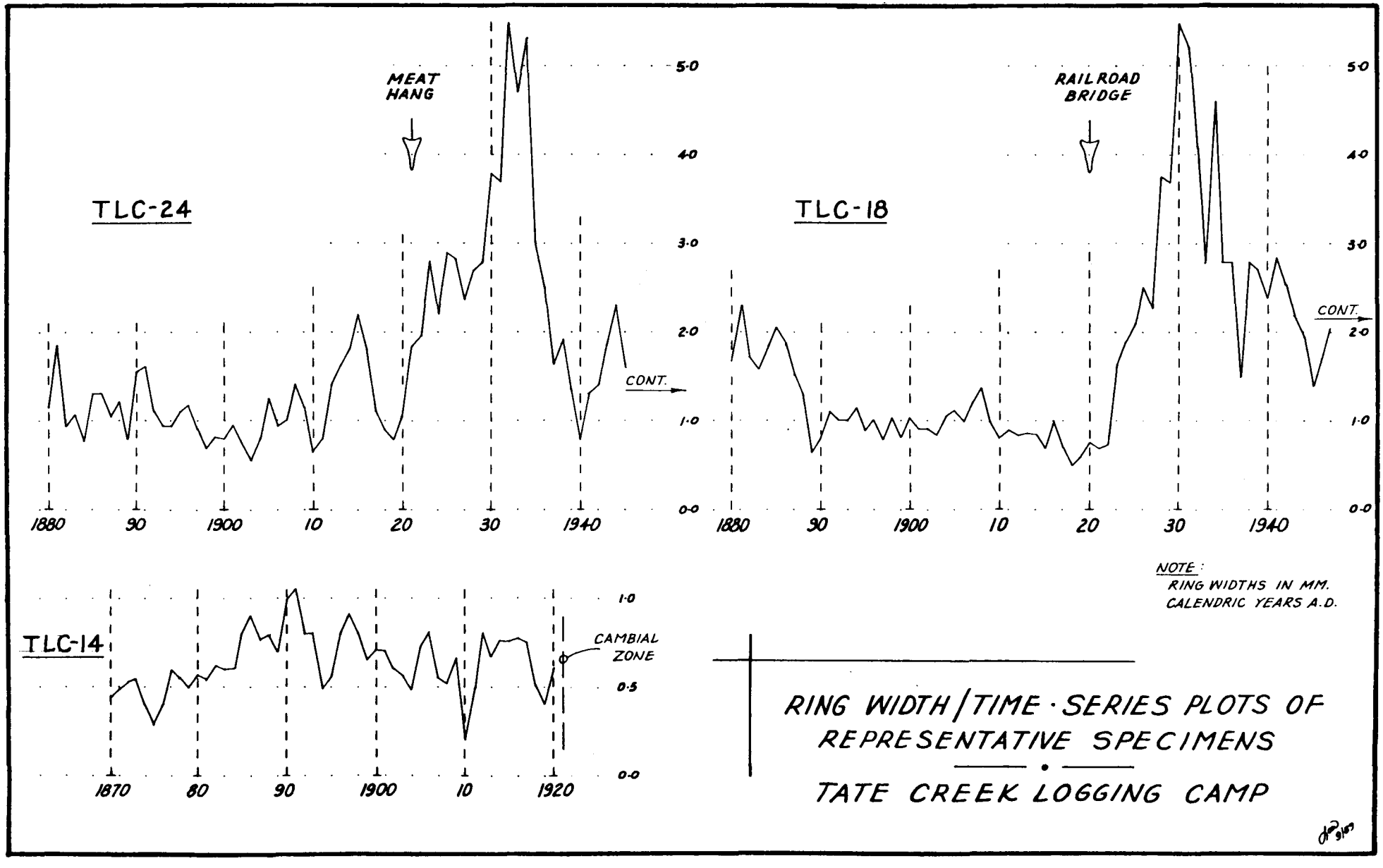
In the middle and northerly latitudes the growth of radial xylem (annual-rings) in native trees normally transpires only during the spring through early fall seasons. Because of this general rule of nature one can determine an approximate date of death (cutting) of the living specimen. This is possible through determination of the amount of annual growth present in the outside ring-year and relating that amount to the expected annual growth for the climatic year. The annual-growth curve is not linear because about 75% takes place in the early part of the growing season. While a dendrometer may measure a swelling of radial cells in (say) March accompanying bud-swelling and shoot growth, the actual beginning of measurable radial xylem growth usually does not begin until April in latitudes south of the Tate Creek Site (Fowells, 1941). Based on my experience with collections at the nearby Stephens Pass fault site May 1 was selected as the approximate date of initiation of identifiable growth.

It is a convention of dendrochronology to assign the cutting date of a tree to the prior calendar year if no cambial zone xylem is present and/or identifiable. This convention is followed for the stumps of logged trees and results in some cutting dates shown as 1920 rather than the 1921 date for neighbor trees which exhibit the initiation of xylem growth.

Evidence for Historic Era Forest Burning

A significant number of the stumps of logged trees display "cat-face" scars from past fires. It is my general impression that the greatest impact to the stand was from fires which occurred during the late historic era. This impression may be faulty because if major fires took place in earlier periods the effected trees of the same general age-class may have been destroyed and not available for logging. This assumption, however, requires an explanation for the lack of fire damage of the older and larger trees near the creek. Local riparian vegetation may have acted as a groundfire barrier because these trees suffered relatively less damage from historic era burns.

The collected specimens exhibit both direct and indirect evidence for a burn in AD1864 and a following one in AD1874. The earlier event appears to have been most debilitating to the stand. The ring series of some trees fail to show any significant effects of the fires, indicating no general crown damage resulted from the burns


TLC-24
MEAT HANG
5·0
4·0
3·0
2·0
1·0
0·0
CONT.
1880
90
1900
10
20
30
1940
TLC-18
RAILROAD BRIDGE
5·0
4·0
3·0
2·0
1·0
0·0
CONT.
1880
90
1900
10
20
30
1940
NOTE:
RING WIDTHS IN MM.
CALENDRIC YEARS A.D.
TLC-14
1·0
0·5
0·0
CAMBIAL ZONE
1870
80
90
1900
10
1920
RING WIDTH / TIME · SERIES PLOTS OF
REPRESENTATIVE SPECIMENS
TATE CREEK LOGGING CAMP

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